devnetwork

Whitepaper

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1. Abstract

Devnetwork creates a global professional network, HR, community engagement, event management tools and large-scale professional database. Devnetwork will be built on top of the Devcamp platform[1] which lets every stakeholder in tech industries grow the ecosystem together. Professionals, companies, HRs and partners can use Devnetwork as a semi automated tool to achieve their career and business goal. Professionals can create their profile pages and search for jobs. Companies can build their identities to assert their presence on the platform, search for candidates and hire them once the matches are found. Developer groups can grow their communities, organize free and paid events. Profile owners on the platform can opt in for complete privacy, in which case there will be no means provided by the platform (free nor paid) for others to acquire the contact information of the profile owner. Devnetwork Token (DEV), will be issued as the medium of exchange on the platform. DEV can be used to purchase geek gadget or paid subscription, to pay for the opportunity to connect and engage with job candidates, to hire freelancers or outsource software projects, to acquire early-bird tickets and attend exclusive programs. To give back to the community, token holders will be randomly selected at the end of every month and be rewarded 30% of the tokens Devcamp has earned during the past month. The chance each token holding account gets the reward is proportional to the amount of tokens held on the account relative to the total token supply. With our roadmap of community driven strategy, leveraging the blockchain, we are creating a whole circle that enables billions of jobs in every part of the world for everyone including workers in developing regions and make the hiring process more accessible and engaging by replacing traditional HR tools and headhunting culture.

2. Introduction

Professional talent is a top priority for every organization. Despite the advance in robotics and information technology and the ubiquity of affordable computing hardware which have led to The Fourth Industrial Revolution[2], they had created talent shortage and the world does not have enough talented developers to serve every large-scale unicorn or small startup, especially in the technology sector where the lack of talent supply is more than 40% and in the fintech and Blockchain industry where more than 70% of the employers are having trouble filling the positions[3]. We hope to create a long term sustainable solution to mitigate the problem of world's technological ecosystem.

We need more tech talent in tech industries. The people in the industry is well aware of the fact and this is strongly confirmed among the press [4][5][6][7][8]. If we cannot keep up and produce more tech talents, the shortage would only exacerbate.

There is another problem which is as important as talent shortage, employers don't understand new technology. Some of them are traditional conglomerates, non-tech startups or traditional tech companies. Many employers do not understand the nature of information workers. They do not understand that creative and intellectual labor needs to be tackled from a different mindset. Traditional HR team don't understand technology and new skill set talents need in 2020. If the HR which is the backbone of a company has problems, they will get bad hires. Additionally, bad hires may cause worse problems than not hiring at all. This leads to unrealistic deadlines and budget and eventually the failure of the employers in question to keep tech talents with them. According to the U.S. Department of Labor, the price of a bad hire is at least 30 percent of the employee's first-year earnings[9,10]. This kind of situation also rings true in many organizations in the SEA region and worldwide.

This imbalance of demand and supply naturally drives the wage up[6]. This is good news for tech industries. More companies are willing to compete and pay more to attract top talents. It is natural for employees to change jobs more frequently than those in other fields. While this automatic price discovery is already happening and is arguably healthy for the talented, we still believe it still needs to be improved, can be improved, and must be improved as quickly as possible. The earlier the true value of the need in each specialty can be better determined, the industry and the economy as a whole can make decisions on how much to invest in producing more competent tech workers, and an appropriate amount of resource (which the author believe we need more rather than less) is allocated to the problem, the better talented people gets attracted to the field and its education to produce more workforce required.

3. Our Solution

There are three approaches we can employ in order to mitigate the problem and make it long term sustainable to world tech ecosystem as described on the introduction.

- Economy Improve hiring concept and cost: Enabling blockchain technology to the
 industry, creating the tools for HR and platform for professionals, changing the ways
 of hiring to support new generation's career, removing middlemen and traditional
 HR agency area from the ecosystem, making the price discovery of the tech talent
 market as efficient as possible. So the capable talents are well paid and more talents
 are attracted to enter the field.
- Education Increase the quality supply: Engaging talents and stakeholders with our platform, make education more accessible to the people, offer more events and courses to produce more quality tech workers faster.

• Empowerment - Unite global communities: Forwarding worldwide tech talent to meet new development and global business, investing in new emerging market and accelerating new innovation that create new industries and jobs.

To executes these three long term approaches, we create an execution plan consisting of three main phases, starting from solving the most important problem to leverage the tech ecosystem.

- 1. First things first, we need to disrupt HR industries by creating platforms and tools that do not rely on headhunting agencies the middlemen who earn big hiring fees from our ecosystem. The fees for inefficient headhunters that companies could save could instead be given directly to the employees or to communities in the form of contributions and sponsorships. Devnetwork is designed to solve this problem, make the price discovery of the tech talent market as efficient as possible and help grow the ecosystem on the Devcamp platform. Companies that get on board with us will be a part of the community, receive good reputation and retain valuable professionals by giving them opportunities to work on things that matter and give back to the community. We believe that with this imbalance of supply and demand, it is not the companies that pick top talent, but rather top talent that chooses to work with good companies and top talent attracts and influence people of the same kind. To this end, Devcamp will have a mechanism for members of the platform to recommend jobs to friends and in return get rewarded in DEV when companies successfully hire their friends.
- 2. Create a sustainable platform. We do not intend to create a job platform to which candidates only come when they are looking to fulfil their career and also HRs only come when they want to hire. Devcamp is the backbone of Devnetwork, we aim to build a global platform that can grow rapidly with collaborations from every stakeholder, talents share their knowledge to communities, communities open for everyone to open the possibility to grow the ecosystem with support from companies. Companies lead the industries and create innovations from team of professionals and talents. These component together help create a full-circle on our platform, we do not create only tools or products, we grow communities and build the ecosystem with partners.
- 3. Accelerate the ecosystem. Every important journey needs catalysts to make it extraordinary. By expanding Devnetwork and Devcamp globally, we will not work on our own like a giant central bureau. We have to work closely with local communities and partners in every part of the world. Most of our core team members are from Thailand and Asian countries where we are experts at developing our emerging markets. We have been working closely with the ecosystem for several years, gaining lots of experience and connections with stakeholders. We understand the problem that tech ecosystems need help and support. We see great potential in this investment whose return for us and the

ecosystem can be exponential. That is why we will reserve part of the funding to create grant funds separately and especially for emerging markets and specific endangered sectors in tech industries. Our funding support will helps communities and talents in emerging market and rural area in many ways i.e. subsidiary cost of hiring fee, supporting local communities events in fun ways, driving innovation and creating more talents. Country by country, brick by brick and we can cover the entire regions.

4. Market Analysis

By combining the GDP from every country, we get the total number called the Gross World Product (GWP) which is the total value of products and services by companies around the world. The GWP reached \$75 trillion[11] in 2016 and East Asia and the Pacific Region alone generated more GDP combined than other parts of the world. Fortune 500 companies generated \$27.7 trillion in revenues but more than 20% of them fell from the list even when they have been listed since 1955, they were the former new wave companies that was disrupted because they cannot align technologies with their business approach. For the upcoming year, more than 60% of HR and executives say they need to employ more talent and more than 80% see that talent is the number one priority[12]. Talent management and HRs are the main teams that help companies reshape and transform business to the new digital era, overall HR industries will reach 600 billion in 2018 with the average cost per recruitment commission of around 30,000\$.

In the United States, average cost per employee including salary, perks and benefits can be \$55,000 - \$80,000 with HR budget (approx. \$2500 - \$5000) included which in return generates \$500,000 average revenue per employee[13]. In Asia and new emerging markets, the cost per employee are lower than that in the US but can generate the same rate of return for international companies. Investing in talents of the emerging market can diversify the team's mix of ethnicities and cultures, generate more revenue in return and thus will be the right move for every international organization. Going global will not be a straightforward venture for holding companies, penetrating into and blending with local communities and economies will also be challenging.

5. Devnetwork, Devcamp and DEV tokens

In this paper we introduce our Devnetwork token, which will be oftentimes be referred to as DEV for brevity. DEV runs on Ethereum, the most widely trusted blockchain of its kind to date, Turing equivalent and stateful "smart contract" code can be deployed and run on it. Similarly to how we trust Bitcoin that transactions that appear on-chain will never

change, with ethereum, we trust that smart contracts deployed to the chain is immutable and will always run honestly as expected. As will be presented in details later in this paper, we can designed a trustless escrow mechanism that can be used along with DEV to build an economy of decentralized network of talents and companies. We can create job boards along with an efficient incentive scheme for members of the community from anywhere in the world to participate and get rewarded in DEV.

Through Devcamp, our existing platform, we aim to start from creating the biggest community of global tech professional and software sourcing marketplace to foster the economy and enable blockchain technology together with Devnetwork and DEV token, we can create thousands of possible ways to grow and engage with communities, not only hiring and matching. Think about WWW, HTML, API and OS platform, Devnetwork can be the technology medium for every platform not only Devcamp. It's open and everyone can access and build things on top of it. Companies, communities, freelancers, game publisher and even college students. Our solutions will be effective but simple and represent our core value that unite everyone in the industries. In the near future when we and partners work together, the solution can be developed and expanded in many ways. Also, we will update it regularly on Devnetwork website's case study. Here is the early solution we would like to share and open for everyone to join and onboard the platform with us in this decade.

5.1. Devnetwork - Decentralized Hiring and Matching Tools

Traditional hiring and candidate matching, freelancer and software outsourcing are centralized and lacks transparency. Companies and HRs need the right candidates and sourcing but they get bad hires from false information. Candidates send their information to hiring pools without even knowing their personal data gets viewed and transferred to many agencies.

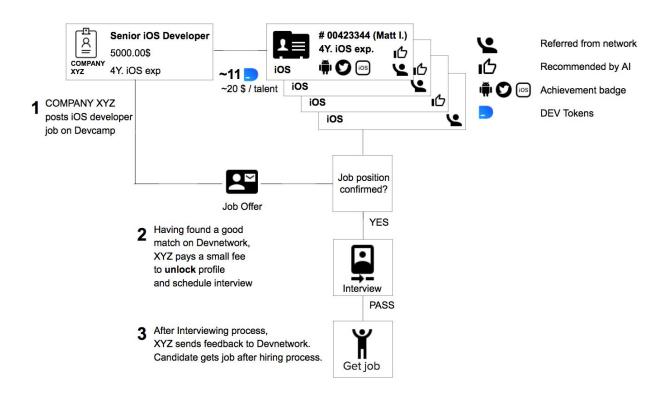
Devnetwork will change the entire HR and procurement industries, improve transparency and give rise to low friction job markets for entire regions. Users can trust the code, not any agency. The platform is based on public blockchain which makes it censorship-resistant, controlled by smart contracts deployed on the blockchain. Moreover, running the platform on Ethereum makes the entire process open and transparent. All disputes will be resolved by the Devcamp platform based on the rules laid down in the smart contracts.

The smart contract for DEV token is always there on the Ethereum blockchain. Every hiring and matching activity is securely stored on Devnetwork blockchain, everyone can access it at the same level and pay a small matching and hiring fee at the same rate. A small business or startup will be able to have access to the same powerful tools the same way big companies do. Companies across the board from a small non-profit team to the Fortune 500

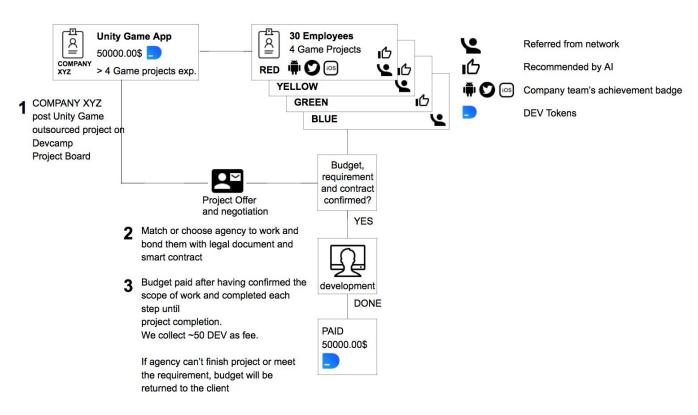
companies do not have to pay any extra fees upfront in order to access the service. Devnetwork tools are accessible to anyone and we also give benefits back to all stakeholders, unlike hiring agencies who are the only party who benefits directly from the hiring process.

On Devnetwork we charge fees from corporates and the part of that fee is also paid to candidates who help refer jobs to candidates. DEV token holders, related communities and previous corporate who lost the candidates will get the chance to receive random payouts (as detailed in the Devnetwork Community Grant below) or grants from Devnetwork and grant pool, this encourages every stakeholder to get onboard our platform. Lastly, each corporate can draft a unique contract for each hire to add incentive for them as a perks, benefits or salary through DEV token.

5.1.1. Devnetwork Job diagram



5.1.2. Devnetwork Project diagram



5.2. Devcamp - Global Ecosystem Platform

Devcamp, our existing platform, was created to empower the tech ecosystem, raise awareness and deliver talent needs. We work closely with tech companies like Google, Samsung, telcos, banks and more to grow the tech ecosystem in Thailand. From online platform to on-ground engagement, we build the whole circle for professionals, tech companies and communities with useful features such as talent profiles, corporate profiles, job boards, project boards and tools for community managers.

The platform has a friendly and easy-to-use interface for corporates and talents to help post their requirements. Talents can upload their profile and past work and the data will be stored on the system visible to others by default, corporates can reveal the data for a small amount of fee. To ensure the authenticity of the users, the platform will be performing identity verifications whenever necessary. The unique identities of talents and corporates will be based on their addresses in the blockchain, making it difficult to forge. When a contract is awarded by the corporates, they need to deposit a platform fee which is paid in DEV. The platform will utilize smart contracts and escrow mechanism to hold the fee and perform disbursement of the collected funds.

5.2.1. Devcamp Corporate Profile and HR Tools

Created for corporates to connect to professionals, Devcamp Corporates Profile will show the best of each company's technical team and career. Companies will have exclusive access to the tools tailor-made for HR use cases. They can use them to attract and hire the right people. The Corporate Profiles will be easy to set up and will directly target the talents they need. Try first with the Free package and unlock intensive HR tools from Paid package. No more head hunters and awkward approaches to search for candidates.

5.2.2. Devcamp Professional Profile

Professionals can create their own work profile, highlight their own projects and codes. We support talents by helping them learn from resource materials, get special invitation from our community partners, choose new career path or work on sourcing project from agency. Part of the profile data will be immutably stored on-chain.

5.2.3. Devcamp Community Profile and Event Tools

From groups of people who are interested in tech topic to technology providers, gather in one place with top notch tools designed for community managers for all scales and event types i.e. event management, community membership, hackathon and paid event using DEV tokens. It is free and will always be free for every community. Engage the right audience hassle free.

5.2.4. Devcamp Project Sourcing

Project sourcing board will allow anyone to post and search for agencies or freelances to get their job done. Funds are locked in smart contracts until project completions.. Employers will have choices to pay when the job is done and pay a small amount of fee in DEV. This will improve the project sourcing market with blockchain technology.

5.2.5. Devcamp Al

Our researcher and machine learning team will create automated tools which can recommend candidates and agencies to corporates, recommend salary guides to make sure corporates pay commensurate amounts of wages according to the market, identify new rising star talents or specific new work trends that may be needed in the future. The system will be fine tuned to work best for HR and corporate in order for them to select the right candidates, decrease bad hires and make sure every DEV token spent through our recommendation system is worth it.

5.2.6. Devcamp Blog and Materials

Our blog site will be value added to community and corporate who onboard with us. We will update news and useful resource and also help highlight corporates and partner's activity on our network. We have team of experts and evangelists who also publish article and content on the site regularly. We will also collect resource materials like recorded training session videos, presentation slides and more materials from both the communities

and experts. We will also work with our partners like Skooldio and YouTube to help educate people on new technologies.

5.3. DEV - Utility Token and Cryptocurrency

More than 95% of cryptocurrency volume happens on crypto exchange markets. Many major institutions and shops now accepting Bitcoin but it still low compared to the growth of cryptocurrency market capitalization which reach 300 Billions and only 1 Billions use for trade for physical and consumer asset.

DEV is the native token of Devnetwork and its platform. Everyone can easily, instantly transfer DEV between DEV wallets with small fee and receive products or service in return. We will work closely with Devcamp and Devnetwork partners and corporates to implement a set of products and services that can be purchased by DEV token i.e. products and services subscription, in-app and in-game item, gadget and phone, fitness and spa, conference tickets and community donation. It will increase the value of Devnetwork and also our partner products and innovations.

There is an inherent utility of these tokens for anyone who wants to interact with users on the Devcamp platform. As the professional platform becomes popular among the market and ecosystem, there will be a demand for more Devcamp tokens which would increase its value for the existing token holders.

Another important advantage of having a crypto token as the exchange medium is that we can implement trustless escrow setups. They can be useful in various situations when DEV is promised to be sent from one party to another in exchange for products, services, assets, or any imaginable entities. Relevant uses of escrows on Devnetwork can be, for example, a corporate promising to pay a prospective employee in DEV for an interview in compensation for his time, a bug bounty program promising DEV in reward for the first participant who can fix a software bug.

5.3.1 The Escrow Mechanism

We begin by discussing an implementation of the widely used basic escrow mechanism and its shortcoming, followed by our proposed mechanism which is more robust in the sense that the chance of any dispute that needs to be resolved outside the system is reduced.

In both depictions of the escrow mechanisms, let us suppose there are two parties involved, namely Alice the <u>application</u> developer and Bob the <u>b</u>usiness owner. Bob wants Alice to give him a demo mobile application and in return he promises to give Alice p DEV in her account a.

6.1.1 The Basic Escrow Mechanism

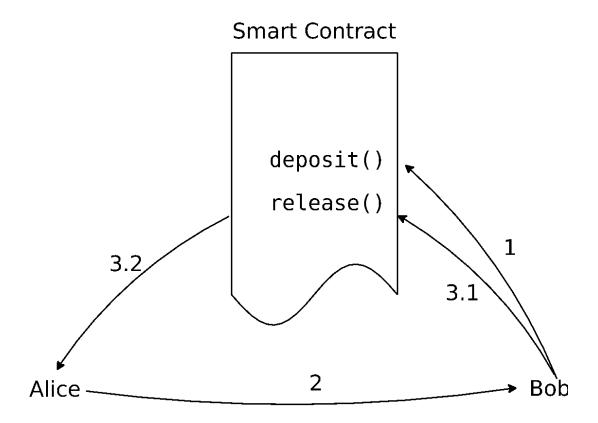


Figure 1: A diagram depicting the chain of events of the best case scenario for the basic escrow mechanism. Each arrow in the diagram is an event numerically labeled according to its order of occurrence in time.

In the basic escrow mechanism, the chain of events for best case scenario is described as follows:

1. Bob requests for a product/service from Alice and execute in the smart contract, deposit(p, a) to lock p DEV in the smart contract and promise that the fund can only be sent to account a when unlocked. In return he gets the transaction id as the return value, which Bob sends to Alice in order to verify. After this step only Bob can unlock the fund and the fund cannot be sent to any other account but a.

- 2. Having checked that the deposit transaction with the given id is there, Alice sends Bob the product/service.
- 3. Upon receiving the product/service:
 - **3.1.** Bob executes release (id)
 - 3.2. The smart contract sends p DEV to Alice

As long as both parties honestly act according to the protocol, they can transact on their own without any trusted third party. However, consider the case when Alice does not deliver the product/service as promise at Step 2 because someone else offered her a better deal for the same amount of effort shortly after Bob did. The only way Bob can get the fund back is to ask Alice to return the fund back to him after he has executed the contract to release the fund to her. On the other hand at Step 3 when Bob has received Alice's good/service he may not release the fund to her to save the contract execution fee, or perhaps just because he can export more product/service or assets from Alice this way. As a workaround for Alice's potential dishonesty in Step 2, we may add an expiry condition that lets Bob refund himself after a certain period of time but that change to the escrow mechanism also introduces the possibility that Bob, after having Alice's product/service, may just let the fund stay in the contract and wait until the expiry and refund the tokens back to himself.

6.1.2 A More Robust Escrow Mechanism

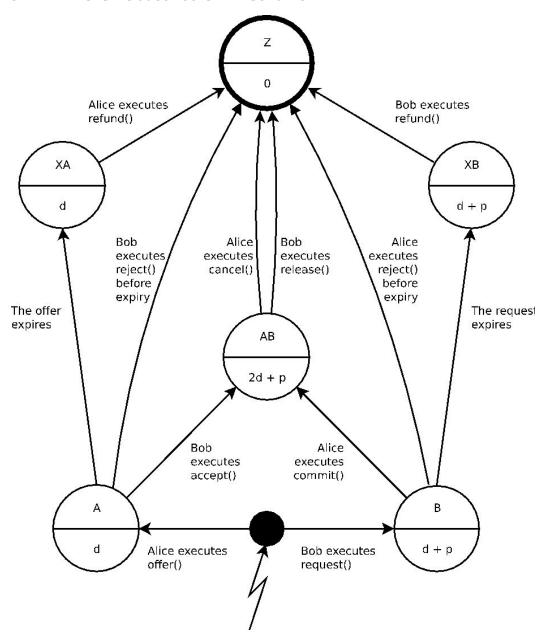


Figure 2: The finite state machine depicting the escrow mechanism we propose. The solid black dot is the starting state and the top most circle with thick border is the terminal state. The top half of each state is its name and the bottom half is the amount of DEV locked inside the contract at that particular state. Informally we can think of time as going up, states higher in the diagram happen after those below them.

We can reduce the chance that any of the parties will act dishonestly, thus effectively reduce the chance of disputes that need to be settled outside the system. By having both parties commit their DEV in the early stages, they openly show the other party

that are willing to complete the transaction and they both have the economic incentive to do so.

This improved mechanism is best described as a finite state machine in Figure 2. A transaction always start from the initial state at the bottom and completes at the topmost state at the top. We first explain what each of the five remaining states in the FSM one by one followed by the descriptions for the eight state transition functions and end by an example of a complete chain of events that constitutes a complete transaction. Note that d is the deposit amount of DEV both parties agree to have locked inside the contract until the transaction completes and Alice and Bob agree that p DEV is the price exchangeable with the product/service offered by Alice.

A: The contract is in this state if Alice is the first party who starts the transaction. She does so by executing at the initial state,

where e is the expiry time which will be set to a block number. Upon execution of this function, the contract deducts d DEV from Alice's account, stores p as the amount Bob needs to send in order to transact, and stores e as the reference block number after which the contract automatically reaches state XA if Bob does not respond in time.

XA: The contract automatically reaches this state if Bob has failed to execute accept() or reject() before the expiry block e. At this point only Alice can execute refund() to get back her d DEV of deposit.

B: From the initial state, Bob can also be the one who start the transaction. He does so by executing,

whese e is , again, the expiry block number. Upon executing of this function, the contract deducts d+p DEV from Bob's account and stores e as the reference block number after which the contract automatically reaches state XB if Alice does not respond in time.

XB: The contract automatically reaches this state if Alice has failed to execute commit() or reject() before the expiry block e. At this point only Bob can execute refund() to reclaim the d+p DEV previously locked inside the contract.

AB: This is the state where both Alice and Bob have their funds locked inside the contract. After Bob has received the product/service he can execute $\mathtt{release}()$ to have the contract send Alice d+p and himself d. Without the execution fees, at this point Bob's net expense is p and Alice's 0. On the other hand, If Alice cannot deliver the product/service then she can execute $\mathtt{cancel}()$ and the appropriate amounts of DEV are returned back to herself and Bob by the smart contract.

We now explain the state transition functions and their arguments in detail.

offer (d, p, e): This function can only be executed at the initial state by Alice to transition the contract to State A. d DEV is deducted from Alice's account and the value d and p are stored in the contract and d+p DEV will be deducted from Bob's account if he responds by executing <code>accept()</code>. e is the expiry block number as described above for State A.

<code>accept()</code>: This function can only be executed at State A by Bob to transition the contract to State AB. By executing this function, Bob accepts Alice's offer of product/service and agrees to have d+p locked inside the contract, to be released by him once he has received the product/service.

request (d, p, e): This function can only be executed at the initial state by Bob to transition the contract to State B. d+p DEV is deducted from Bob's account and the value d and p are stored in the contract and d will be deducted from Alice's account if she responds by executing commit(). e is the expiry block number as described above for State B.

commit(): This function can only be executed at State B by Alice to transition the contract to State AB. By executing this function, Alice honors Bob's request and agree to lock d DEV from her account inside the contract to show the commitment that she will deliver the product/service.

release(): This function can only be executed by Bob at State AB. He would want to do this once he is satisfied with the product/service delivered. He is compelled to do so because he has d+p DEV locked inside the contract while the price he is happy to exchange for Alice's product/service is p. Upon execution, the function sends d DEV back to Bob's account and sends d+p to Alice.

<code>cancel()</code>: This function can only be executed by Alice at State AB. Upon execution, the function sends d DEV back to Alice and d+p back to Bob. Alice might want to execute this function if, for example, her product was lost before she could deliver it to Bob or if the price p for the product/service has to be abruptly changed.

<code>refund()</code>: This function can be executed at State XA or XB by Alice or Bob, respectively. Note that the contract reaches State XA or XB when the offer or request has expired. When Alice executes it she has d DEV returned to her by the contract. When Bob executes it he has d+p DEV returned to him by the contract.

<code>reject()</code>: This function can be executed at State A or B by Bob or Alice, respectively. When Alice executes it Bob has d+p DEV returned to him by the contract. When Bob executes it Alice has d DEV returned to her by the contract.

Suppose for example that Bob agrees to buy a software license key from Alice for 10 DEV with the commitment deposit of 5 DEV and the blockchain is currently at block 1000000, the following chain of events might happen:

- Bob executes request (d=5, p=10, e=1000005) and the contract deducts 15 DEV from his account.
- Alice executes commit() at block 1000001 and the contract deducts 5 DEV from her account.
- Alice sends bob the license key via email.
- Having received the key and tested that it is valid, Bob executes release(). The contract sends Bob 5 DEV and Alice 15 DEV.

Note that although d is arbitrary in this scenario, an economically sensible choice of d should be worth more than the contract execution fee, otherwise one party may not be economically compelled to complete the transaction, for example consider the case when Bob and Alice have executed $\mathtt{request}()$ and $\mathtt{commit}()$ respectively and for some unexpected reason Alice cannot deliver the product/service as promised and d is set very low that it is not worth executing the contract to get the amount back (and in the process return d+p to Bob) then a selfish Alice may just leave the contract in state AB. Given the possibility in the near future that Alice or Bob can be software or robot agents programmed to maximize simple economic incentives, a careful choice of d is always better. The bigger the value d, the more compelled both parties are to complete the transaction. As d is returned to both parties in the end and the execution fee does not depend on it, one can set it bigger than p if desired and the net settlement is still effectively p in exchange for the product/service. If both parties plan to have a long transactional relationship between each other they may set d to a very high value for their first few transactions and once they are certain of each other's reliability they can reduce the value of d later.

Note also that there is no economic incentives for Alice nor Bob to execute reject() to have the contract return the fund to the other party so a sensible choice of the expiry block e is highly advised. The function is added for completeness under the assumption that both parties may be externally compelled to executed it.

5.4. Platform Enhancement and plugin

We will develop creative and fun ways to implement DEV token as a plugin on other platforms beside Devcamp. Each partner can use our plugin and template like bug bounty, lotto, hackathon and challenge, and more to create interactive micro campaign with their

products. It has less requirements and everyone can plug in with us and use DEV token as a medium to perform the activities.

6. Devnetwork Community Grant

In order to give back to the community, 30% of the DEV that the platform earns each calendar month will be rewarded to randomly selected token holders¹ at the end of the month. The chance each token holding address will receive the reward is proportional to the average amount of token held in the account during the month. Since the Ethereum blockchain does not have a native concept of date and time, we eventually translate the start and the end of each month into block heights.

To define the chance mentioned above for each token holding address formally, we first define μ_a , the mean amount of token held by address a between block b_1 and b_2 as

$$\mu_a = \frac{\sum_{b=b_1}^{b=b_2} A(a,b)}{b_2 - b_1 + 1}$$

where A(a,k) is the amount of token held at address a at block height k. Then the probability that an address a among the the addresses $a_1 \cdots a_N$ will win a reward is

$$\frac{\mu_a}{\sum_{k=1}^{k=N} \mu_{a_k}}$$

7. Devnetwork Community Fund

We reserve 8.1% of the ICO budget to establish a community fund by exchanging our cryptocurrency reserve into Bitcoin, Ethereum, Litecoin, OmiseGO, Stellar Lumens, Ripples and more. Our fund manager who have CFA qualification will manage the fund by swapping the coins and trade it regularly according to general fund management protocol, we will not exchange the cryptos into fiat currency and use it as our team budget. We will try to keep the asset as long as possible and spend a little portion of the profit to support the ecosystem in emerging markets and new technological research and development and implementation like Devconn and local community support. DEV tokens holder, investor and the Devcamp team will not get any benefits or dividend directly from this fund. This fund will be created to help solve problems using the Devcamp platform for the countries and communities in need. Investors and all stakeholders will indirectly reap the benefits from the value of the Devcamp platform and the DEV token.

¹ Depending on the Ethereum gas price and the amount of DEV the platform has received each month, the number of recipients and the amount of each reward will be announced later.

8. Limitation or challenge

The blockchain technology relies hugely on cryptography, especially public-key cryptography in particular. It has a strong mathematical foundation and has been working well for various blockchains including Ethereum, on which we will deploy our token contract. However, in the near future, when computers becomes exponentially faster and energy efficient enough to perform massive computation, public-key cryptography could break. Quantum computing can be one such threat to cryptocurrency, there are known workarounds and some blockchain implementations are claimed to be post-quantum secure, still, new mathematical discoveries and advances in computing may pose new threats to the blockchain technology in the future. With this in mind, we plan to set a side an R&D budget to make sure we are ready to cope with the changes in the future.

9. Open-Source license

We will maintain the Devcamp platform ourselves and make certain parts of our codebase open-sourced, we are highly interested in any stakeholders and partners that would help developing an ecosystem, where freedom and openness to diversity of creativity is only adding value to the network itself. These mean, Devcamp helps corporates to hire more talents and talents will get more job and more value added service for smaller fees from corporates. Various parts of the Devcamp code, reference apps and APIs will be open-sourced, with presence in the Apple App store, Google Play store and on related web portals. Communities or corporates can integrate software into Devnetwork and its infrastructure, expanding number of users and developing capitalization of Devcamp. No upfront cost and cost of implementation on Devcamp policy is making it even more interesting for end users, talents and corporates.

10. Conclusion

Platforms and communities are built on trust. We create a system of trust using blockchain technology, not from individual or institution. Every DEV token represents transparency and decentralized nature of the network that can create thousands of possibilities. Everyone onboarding the platform has equal power to change the industries.

We believe communities and partners are at the core of our project, not the platform. In the era which technology evolves at nearly the same pace as Moore's law,

ethics and responsibility are still lagging far behind. Fake news, fraud and false statement are everywhere, including blockchain industries. Therefore, we need to work together on the same side, driving communities in better direction and make statement of trust to help solve the problem.

We are the team who initiate the project, we build the platform but it is owned by everyone. It will be free and open, we want to create a path that enables the use of technology, educates hundreds of millions of the next generation, provides jobs and fosters the ecosystem of innovation. Blockchain was invented for a good cause, not for profit, the same is true for our Devnetwork project.

11. Future Work

Devnetwork will be in Devcamp Release 2.0 which is already budgeted and we will be launching before May 2018. From the crowdfunding, we plan to invest 23.2% in future development of Devcamp and our partner platforms in 2018.

Our current focus is on creating an efficient recruitment platform for talents. Once we are successful in this, we plan to venture into tech startup, tech learning course online and tech events. We believe that the ventures can be achieved in a more efficient way over blockchain and through an Ethereum based platform.

12. Team and Background

We believe tech workers are the key people that can make the world better, disrupt and change the status quo of the world's business and innovation. Starting from years of experience in being a big part of the Google Developer's partners and organizing events for the tech and startup communities in Thailand, we built a platform that aims to reach out to as many tech experts in the country as possible, make it easy for them to make themselves known in the industry and make it convenient for corporates in need of tech talents to reach out to them. The result is Devcamp Platform and the story of our founder team.

Wittaya Assawasathian - CEO, Devnetwork

Wittaya started his career as CEO at Apppi Co., Ltd. - Full Services Digital Agency founded in 2012 and helps tech companies like Google, Samsung, Microsoft and more grow tech ecosystem in Thailand. He has creative entrepreneur vision and software development background. He also is a community manager for Google Developer Group Thailand and is

involved in many tech ecosystem projects. One of his goals is building global platforms for tech industries and Devnetwork is just the start.

Somkiat Ake Wongkhitwattana - CTO, Devnetwork / Google Developer Experts Android Ake is a passionate android developer who's worked on enterprise software product and one of the top contributors in the Thailand Android user community website. He has worked on android for over 6 years and used to work as hardware developer focusing on developing embedded system products that interface with android devices. Ake enjoys learning in android and embedded system technology, and is a habitual article writer on android development for the Android Thai community. Ake's role in Devnetwork is create entire interface platform with best user friendly approach and best-in-class security.

Ty Smith - Advisor, Devnetwork / Google Developer Experts - Android

Ty has been specializing in Android since 2009. Today he is an Android Tech lead building Uber's developer platform and a member of the technical advisory and investment group, Specialized Types.. He is passionate about software craftsmanship and working with teams to craft delightful user experiences by contributing to developer tools and libraries directly, mentoring engineers and designers, as well as investing and advising startups on overall mobile strategies. Prior to Uber, Ty worked on the Fabric tools at Twitter, the Evernote Android App and SDK, a messaging platform for Sprint, and Zagat for Android, and a couple startup attempts

Teesid Korsrilabutr - Advisor, Devnetwork

Teesid has experience working with several companies in North America as a full stack engineer. Before joining Instasim as a CTO, he has helped Braincloud Learning launch its early stages of the product. Having been working with two startups, he is familiar with coming up with ad-hoc solutions and frugal innovations needed to get the job done. Teesid advises Devnetwork on blockchain, economic aspect and roadmap.

Alan Lee - Advisor, Devnetwork

Alan has worked in multiple web/technology startups where his core duties involved defining and designing products, and leading developers through entire product life-cycles. He currently consults for Fintech and Proptech startups in Singapore, helping to build their technology and go to market. Alan help pioneer Devnetwork on global scale.

Virot Chiraphadhanakul - Advisor, Devnetwork / Google Developer Experts - ML

Virot has been pioneering Machine Learning movement in Thailand through his contributions to the local developer scene by bringing his past Data Science experience from Facebook and MIT. He is CEO of Skooldio and also teaches part-time at a local university on topics ranging from data wrangling, Big Data, Machine Learning, Data Visualization etc. Virot advises Devnetwork on AI that help deliver better outcome for stakeholders in Devnetwork.

Inaki Villar - Advisor, Devnetwork / Google Developer Experts Android

Iñaki is a software engineer focused in mobility. He has been developing for Android from early versions and enjoy coding with a wide range of Android frameworks, libraries and applications. He moves from Mallorca to Barcelona to work with android developing banks apps and focused in personal projects with tourism apps. From one year ago he is relocated in Ireland. He's actively involved in the Android community and now focusing in Solidity, Ethereum and Blockchain project.

Puntil Jongjittrakoon - Advisor, Devnetwork

Puntil has graduated Ph.D. degree in International Investment and Trade from Beijing University of International Business and Economics. He is Chief Technology and Information Officer of Samakomphra and Executive Committee of The Thai Buddha Image Admiration Association in China. He has stakes in a wide variety of businesses, including Real Estate, Exporting, Financial and Investment. He is also a regular contributor and speaker on new technology in FinTech, now he plans for the future to use blockchain in real business.

Bowornsith Nitiyavanich - Legal Advisor, Devnetwork

Bowornsith is a Managing Partner of BNC Legal having expertise in Technology, Corporate, Foreign Direct Investment, Entertainment and Taxation law matters. His wide ranged legal experiences and formidable and realistic litigator traits provide his clients with accurate legal and business assessment and grant clients, as always, alternative options to be customized based on his client's business requirements in particular regulatory and business. This is proven in his successful navigation of regulations and investment criteria. Bowornsith is pursuing his Ph.D. and obtained his LL.B. and LL.M. from Thammasat University in Bangkok.

Reference

- 1. Developer Playground, Jobs and more [Internet]. [cited 2017 Nov 19]. Available from: https://dev.wi.th
- 2. Schwab K. The fourth industrial revolution. 2017;
- The Lack of Blockchain Talent is Becoming An Industry Concern CoinDesk [Internet]. CoinDesk. 2017 [cited 2017 Dec 2]. Available from: https://www.coindesk.com/blockchain-hiring-difficulties-becoming-industry-concern
- 4. The next industrial revolution is coming to Southeast Asia. Time [Internet]. [cited 2017 Nov 19]; Available from: http://time.com/4347339/asean-world-economic-forum/
- Aravindan A, Nangoy F. Talent shortage stymies Indonesia's tech scene [Internet]. U.S. Reuters;
 2016 [cited 2017 Nov 19]. Available from:
 https://www.reuters.com/article/us-indonesia-startups/talent-shortage-stymies-indonesias-tech-scene-idUSKCN0YT2SM
- 6. Talent shortage drives IT salary rise in Singapore [Internet]. ComputerWeekly.com. [cited 2017 Nov 19]. Available from: http://www.computerweekly.com/news/4500253874/Talent-shortage-drives-IT-salary-rise-in-Singapore
- 7. Skills shortage and poor IT infrastructure hinder tech adoption by Asean governments [Internet]. ComputerWeekly.com. [cited 2017 Nov 19]. Available from: http://www.computerweekly.com/news/450300895/Skills-shortage-and-poor-IT-infrastructure-hinder-tech-adoption-by-Asean-governments
- Economist T. Asia's looming labour shortage [Internet]. The Economist. The Economist; 2017 [cited 2017 Nov 19]. Available from: https://www.economist.com/news/asia/21716584-there-obvious-solution-asias-looming-labour-shortage
- admin. What's the Real Cost of a Bad Hire? [Internet]. HR Exchange Network | Empowering HR. 2014 [cited 2017 Dec 7]. Available from: https://www.hrexchangenetwork.com/hr-talent-aquisition/articles/what-s-the-real-cost-of-a-b ad-hire
- 10. Fatemi F. The True Cost Of A Bad Hire -- It's More Than You Think [Internet]. Forbes. 2016 [cited 2017 Dec 7]. Available from: https://www.forbes.com/sites/falonfatemi/2016/09/28/the-true-cost-of-a-bad-hire-its-more-than-you-think
- 11. GDP (current US\$) | Data [Internet]. [cited 2018 Jan 13]. Available from: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD
- 12. Ignatova M. New Report Reveals the Trends That Will Define Recruiting in 2017 [Internet]. [cited 2018 Jan 13]. Available from: https://business.linkedin.com/talent-solutions/blog/recruiting-strategy/2016/7-trends-that-will

- -define-recruiting-in-2017-infographic
- 13. How Much Does An Employee Cost [Internet]. [cited 2018 Jan 13]. Available from: http://web.mit.edu/e-club/hadzima/how-much-does-an-employee-cost.html