Skill2Token

1. PRELIMINARY THOUGHTS: IDENTIFYING THE KNOWLEDGE GAP

Millions of young professionals go through the everyday pain of having to demonstrate their **skills** to the market without having the formal means to do so. Either these professionals lack any of the complex prerequisites demanded by certifying authorities or their skillset is not tailored to the requirements imposed by such organizations. Quite often, the needs of the market are not for a highly skilled professional who has undertaken a tortuous certification process, but for a technician with a very specific talent.

The problem presented above creates two brutal consequences:

a. young professionals have difficulty fitting the best possible positions since they lack the much-needed means to prove their abilities.

b. matchmaking between a specific **skill** and the positions available in the market is a flawed process, in which companies must frequently settle for "the next best thing", failing to track the exact professional required to fulfill their needs.

This is a massive market failure that affects companies everywhere. The main issue is that quality information about a person's skill set does not reach recruiters or, when it does, there is no way for the company to be certain about that very specific **skill** claimed by a candidate.

There is a direct link between the circumstances described and heavy money losses caused by the increased learning curve to most qualified professions out in the market. The damage is as severe as it is tough for a candidate to demonstrate a given **skill** or for the companies to assess a professional really masters a given competence claimed on a resume.

Add to all that the financial burden certification processes bring about due to training, very specific studying materials, and the fees charged by the certifying organizations. Certainly, there is always going to be a need for those, but we believe that should never be an imposition or an obstacle for young and perfectly qualified professionals.

2. PRESENTING SKILL2TOKEN: A DECENTRALIZED NETWORK FOR SKILLS ATTESTATION

Step one consists of setting up a multi-layered community formed by experts and seasoned professionals, but also allowing newcomers and rookies willing to join. **Skill2token** is meant to be a self-sustainable community, with no interference from outside forces. However, an initial setup is key to guaranteeing the environment will function accordingly to our predictions.

As is the case with any social network, early adherence is at the core of the project. The point then becomes: how to attract key members whose expertise is needed to validate applicants in an initial stage?

The answer is simple: gamification plus financial rewards. **Skill2token** is set to be a token based on the Ethereum blockchain. Evidently, the higher its value, the more skilled professionals will join in. Early comers may have to accept the stakes of joining a work in progress, but the rewards are clearly stated: the initial group of experts will receive a share of the tokens free of charge.

These professionals will have to be spotted by conventional means: academic publications, field recognition, interviews, and resumes. Our team will take on the task of setting up this embryonic community, and as a reward, we will also keep a share (x%) of the tokens.

Besides the expert panel, other participants will be able to join the community at an early stage. These individuals will be part of a whitelist, comprised of candidates who fulfill the requirement of successfully inviting **X** persons to the community's waitlist. The invitees will be scrutinized in order to avoid bots and false profiles. They will also have to fill out a form to set their future adherence in motion.

Hence, the embryonic community will be formed by experts and whitelisted users. Once the network reaches **X** members, early applicants will be allowed to submit their projects.

3. SUBMISSION AND POLLING

The basic principle of a self-governing community then materializes itself: once a project is submitted, it will be subject to peer review. That in itself is not an innovation, as it is a widely used system of academic papers validation, among other uses.

The novelty within our system begins with gamification: once a newcomer subjects a project, peers willing to participate will place **bets**. The community will be betting on one of the two likely outcomes: either a candidate's project receives peer approval, or it gets rejected due to the incapability of demonstrating the alleged **skills**.

Participation in the bidding is not mandatory, although users will be alerted about submissions that match their alleged field of expertise. An application can only be submitted to the bidding process once it reaches **X** participants willing to bet.

Unlike a blind peer review mechanism, voting within Skill2token's community will be recorded on the blockchain. Hence, the process is public and fully auditable by anyone with an internet connection.

Participants who placed bets on the prevalent verdict will receive a portion of the **coins** bet by the defeated side, based on the following formula:

$$\text{amount bet by participant} + \left(\frac{\text{amount bet by participant}}{\text{amount bet by winning side}} \times \text{amount bet by losing side} \right)$$

Example:

Assume a participant placed a bet worth 100 coins and that there were 100 participants submitting the same number of coins in a given bet. Also, assume 80% of those participants bet on the winning side.

$$100 + \left(\frac{100}{8000} \times 2000 \right)$$

Considering the described scenario, the 80 users on the winning side will end up with 125 coins each.

Now let's assume we have three groups:

- 40 participants in group "A" bet 50 coins

- 40 participants in group "B" bet 25 coins

- 20 participants in group "C" bet 10 coins

In this simulated case, 55% of participants bet on the correct outcome. They will be faced with the following rewards:

Group A: each participant on the winning side gets **90,9 coins**

$$50 + \left(\frac{50}{1760} \times 1440 \right)$$

Group B: each participant on the winning side gets **45,45 coins**

$$25 + \left(\frac{25}{1760} \times 1440 \right)$$

Group C: each participant on the winning side gets **18,18 coins**

$$10 + \left(\frac{10}{1760} \times 1440 \right)$$

From a behavioral economics perspective, the formula provides participants with the following incentives:

a. Responsible betting: a user that often goes “all-in” has a strong chance of eventually losing all coins.

b. Anti-pooling: rewards will be minimal if a large number of users attempt to manipulate the system. Assume in the first example above (100 participants betting 100 coins) that 98% of them manage to combine their votes towards a given outcome. The denominator in the fraction will be larger, while the multiplying factor (amount bet by the losing side) will be smaller. Hence, in that case, users only end up with an additional 0,02 coins after the poll ends.

c. Incentive towards voting: a user who does not vote misses opportunities to gather more coins when positioned on the winning side. In addition, there may be skills whose knowledge is more restricted and there will be fewer voters. Even so, users who feel confident about their opinion on a given outcome have an incentive to vote, given the formula employed to distribute coins to the winning side. As another example, imagine only ten people voted on a given poll: six of them on the winning side, four on the losing side, and all of the betting 25 coins:

$$25 + \left(\frac{25}{150} \times 100 \right)$$

Even though there were only then voters, each individual user on the winning side will end up with 41,67 coins (66,6% more than they have bet).

d. Users are not only community members, but co-owners: the final and perhaps main incentive towards responsible use and against attempts to manipulate the system is the fact that users are co-owners. That shared responsibility is aimed at creating a sense of community by knowing that coin devaluation will negatively affect all the members equally.

4. HIERARCHY

If this has not become explicit yet, **Skill2token** is set to be a cryptocurrency. Obviously, it is also a self-sustainable certification community. Therefore, it is one of a kind in the sense that it provides the market with the tools to make sure professionals master the skills claimed on a resume, and at the same time, it provides financial rewards to community members who assess their peers.

Some of such members are recognized experts in their respective fields. Therefore, it is only natural their votes carry a higher weight in terms of evaluating a submission. Considering that thought, we propose four layers:

(1) expert – weight 2

(2) mature – weight 1.5

(3) novice – weight 1.25

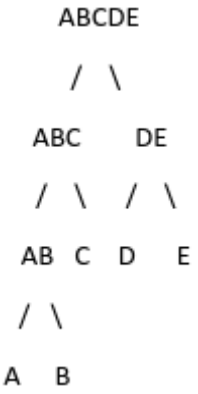
(4) uncertified professional – weight 1

Hence, an expert's vote counts three times more than a newcomer's vote, while a certified professional's vote counts for two. During the polling, users will not know who the experts or certified professionals are, so as to avoid biased choices during the bidding process.

The option for a hierarchical scale is necessary to enforce reliability on the certificates issued by **Skill2token**. At the same time, it increases the community's confidence in the polling results, adding another protection against system manipulation.

5. THE SKILL SYSTEM

Skills included in the list of tokens need to be tech-related, have the possibility of portfolios with projects and achievements, and be able to be judged based on straightforward rules of aptitude. By that means, we can divide them into three categories: **Technical**, **Design,** and **Business**. The skills work in an innovative **Skill Tree** system. If you get the token you automatically get the same privileges as all the tokens this one encapsulates. The system will work similarly to a **Merkle Tree**. Consider a set of five **base skills** going from A to E, a possible **Skill Tree** would be:



This accounts for skills that are part of a larger group. We can use as an example programming in general. Inside programming there would be dozens of languages and dozens of specific parts of a system, like *Cloud Computing*, *Games*, *AI*, etc. Inside each one of those there would other dozens of other skills that inside them have others, etc until you get to the **base skills** that make up the entire system. Making it possible that someone with skills in many topics can get all of those tokens at once by applying to the area that they constitute together. (Ex.: if I am knowledgeable on skills *A, B, …, E*, I can apply directly to the ABCDE skill.)

6. THE CRYPTOCURRENCY LAYER

The cryptocurrency in its core is a standard fungible token using the ERC20 protocol, with the additional benefits of voting in the **Skill2Token** smart contract. Its initial distribution happens in 3 ways with fair percentages for each side:

- The giveaway is for users that the company acknowledges as experts so that the first few applicants will have high-capacity people to judge them. This comes with a contract that makes it so those awarded cannot sell or transfer the coins until it has achieved a certain market price.
- A whitelist-based system so that those who invite the most people to join the whitelist will have the most chances to buy tokens before anyone else. The idea is to drive

people towards inviting more users, who then invite more users, etc; in an exponential way.

- In order to retain value for the company as the cryptocurrency grows, and to ascertain control over attacks on the system, **Skill2Token** will retain some percentage of the total coin distribution.

Now coming to the emission of new tokens: it will happen according to the growth of the community so that each new certified user and expert will receive newly created coins. The amount received varies according to the ranking system and the year of application. Assume, for example, the following scenario for year 0:

a. layer 3 (novice) receives 10 coins when certified

b. layer 2 (mature) receives 30 coins when certified

c. layer 3 (expert) receives 50 coins when certified

Over time, there is a need for a system to avoid inflation and guarantee the asset's valuation, provided by the formula: ***x - yz***

x = How much a given layer received in the first year

y = How many years since the launch

z = How much they lose each year (in this case the rate of 5)

Hence the time it will take for each layer to stop receiving new coins and therefore the moment the new emissions will cease is:

- two years for newly certified professionals (10 – 5*2)
- six years for seasoned certified professionals (30 – 5*6)
- ten years for experts (50 – 5*10)

Causing inflation completely stops after 10 years. Furthermore, this system contributes to a logic that rewards early users, making the ones that joined first the ones with the most coins.

7. FINAL THOUGHTS

A problem-solver, money-earning mechanism, a stable and sustainable crypto asset: **Skill2token** is set to be all at once. Add to that a self-governing community of professionals aiming at improving each other circumstances while profiting as the group becomes stronger.

Skill2token is a one-of-a-kind opportunity to earn money while helping other people and correcting a market failure, thus creating a positive externality: recruiters will count on a reliable means of tracking, identifying, and assessing job applicants.