V1 of the "Ants Planet"

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Background

It has been 12 years since the "Search for Red Balloons", and we were very impressed by the "Recursive motivation" model used by the MIT team to mobilize millions in just 9 hours. For this reason, the team （"Ants Network Lab" or "Lab" for short) has been persistently researching how to better use sociological theory to do integration with blockchain, but not only limited to social mobilization research.

PancakeSwap exploded in March 2021, and the dual mining model of depositing LP Token gained a lot of popularity in the market, which once again proved the importance of achieving multiple wins and consensus. The core model of PancakeSwap lies in pledge mining. The dual mining model requires the LP or CAKE Token to be locked into the contract to ensure that participants are "Keep Promise" during the mining process. This is a bit contrary to the concept that the lab has been studying. The hard connection model of PancakeSwap connects people and machines, and machines are just a communication tool between people. However, weak connections

can connect tens of thousands of people in a short period of time, and can also form a huge and complex network of relationships and social circles. The concept of the lab wants to highlight the connections between people, so lab thinks the value of weak connections is even greater.

After much discussion, the lab has designed an experimental project that incorporates Pancake's mining model with enhanced human behavioral values, and conducts the experiment through token incentives and behavioral constraints. The lab introduces a new concept of "weak connection mining" to verify whether humans can perform " Keep Promise " behavior under the weak connection model. The lab has not closed the loop in the design economic part of the model, but don't worry, this is just the beginning to test whether humans can do " Keep Promise" behavior with incentives, and because of its incompleteness, there are more possibilities and extensions.

Introduction

"Ants Planet" is an experimental project. The lab hopes to connect human beings through a simple and efficient model with weak relationships. And the credit is the bridge that connects people to

each other and to transactions. Therefore, credit plays a very important role as the basis for forming social attributes.

The lab focuses on experimenting whether humans can restrain their desire to investment markets under an incentive system in the first version. You will need to deposit a specified number of tokens in a wallet connected to Ants Planet, and the lab need you to hold the tokens for specified time with the rules (not pledge them in a contract). When you start doing these operations, the lab considers that you have accepted the experiment, and the lab will provide you ANTS-BEP20 (credit token) every day according to a set growth curve. In order that human beings to complete the "Keep Promise" with the rules, the lab has established a severe penalty system, where the provided tokens will be locked for 7 days without withdrawal. If a participant withdraws the "pledged" tokens within the specified time, it will be considered as a violation of the "Ants Planet" agreement, and the lab will directly destruct all the locked tokens and remove the participant from the program for 7 days.

In the experimental stage, "Ants Planet" will pledge FIL to gain ANTS, so it can be regarded as a Filecoin project on BSC Chain. The lab believes that human's weak connection cannot be separated from

data storage, and individuals need to carry private data to form data islands, which can be arranged and combined in any way through weak connection to form a huge and intricate network with infinite possibilities. The BSC chain is a very good public chain with low fees and fast processing speed to meet the further experimental needs of the lab. Cross-chain design is also "weak connection", so the lab will expand more valuable public chains and tokens in the future to comply with the "Keep Promise" agreement.

Keep Promise

As mentioned earlier, Participants need to comply with the "Keep Promise" agreement within specified time. The lab designed three key numbers: 21, 90 and 180, which represent 21 days to develop the habit, 90 days to fix the habit, and 180 to complete the agreement. These numbers are designed with human nature to better develop self-restraint.

In behavioral psychology, it takes at least 21 days for a person's new habit or idea to form, which is called the 21-day effect. This means that if a behavior or idea is repeated for 21 days, it will become a habitual action or idea. Therefore, human beings go through the following stages in the process of developing "Keep Promise":

0 to 21 days, humans need to control themselves by their consciousness to keep promise.

21 to 90 days, humans can keep promise without control.

After >90 days, humans have fully kept this habit of behavior.

The lab decided that during the 21-day progress, participants would receive a non-linearly increasing incentive each day, and that the incentive would stop growing after 21 days. In the incentive model, *baseRatio* representatives a pre-set constant value between 1.05 and 1.15 (later we will analyze why it is in this range). $dayRewardRatio_{Max}$ representatives the incentive base will no longer increase with the number of days when it is greater than 21 days, but will remain constant.

$$dayRewardRatio = baseRatio^{day-1} \quad (0 \leq day \leq 21)$$

$$dayRewardRatio = dayRewardRatio_{Max} \quad (180 \geq day \geq 21)$$

As shown in the figure below, the four curves are the *baseRatio* with values from 1.05 to 1.15. the longer the curve, the higher the incentive, and the incentive base on the 21st day may be several times to tens of times of the previous days. The closer we get to 21

days, the easier it is for humans to give up promise.
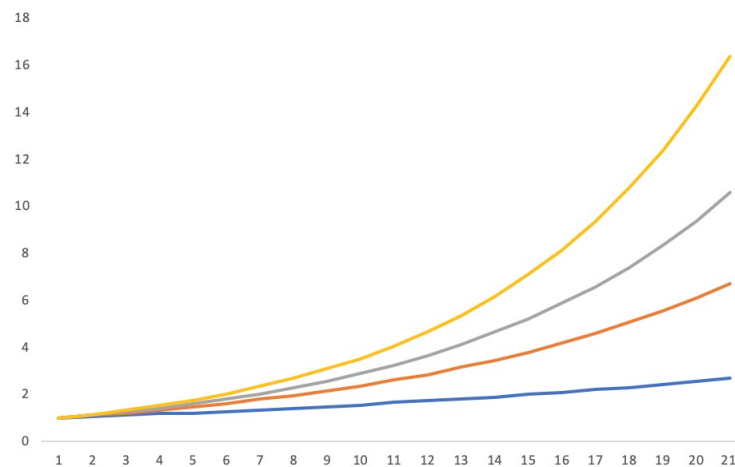
Chain Spread

When it comes to chain spread, it is important to mention the "Recursive motivation" model at the beginning of this article. This model represents a weak connection that can connect millions of people in just a few hours. The "Search for Red Balloons" (the "balloon competition" organized by the Defense Advanced Research Projects Agency (Darpa), which was won by a team of researchers from MIT and provided a new solution to a large-scale social problem) is a very successful example. It uses a decreasing 1/2 incentive model, where the person who finds the balloon gets 1/2 of the total incentive, and the person who introduces him gets half of the 1/2 incentive, and so on, until there are no introducers. In addition, the participants do not know which branch of the whole

propagation path they are on when they spread, so the incentive quantity will become unknown.

The lab hopes to learn from the "Search for Red Balloons" to spread quickly and effectively, and to cultivate the "Keep Promise" agreement under the weak connection model. The lab also to make some adjustments to the model and incentives to be more conducive to the current social communication. *inviteNumber* representatives the number of participants invited to participate in the current "Keep Promise" experiment, LOG_N representatives the coefficient growth rate of the number of invitees, and N in parentheses representatives the offset, regardless of the value of N, *baseRewardRatio* is 1 when not invited. The *baseRewardRatio* representatives the incentive coefficient corresponding to the number of invitations, which will jointly affect the number of incentives obtained per day with the *dayRewardRatio*.

$$baseRewardRatio = LOG_N(inviteNumber + N) \quad (inviteNumber \geq 0)$$

The incentive coefficient *baseRewardRatio* is not growing linearly with the number of invitations, the lab expects participants to

spontaneously spread, but also does not want too many participants to invite leading to an excessive imbalance in the incentive coefficient. As can be seen from the figure, inviting large numbers of people to the same address is not the optimal solution, and its growth coefficient is gradually slowing down, but it is indeed the most convenient, for example, if a participant spreads his address to the network, other people who want to participate expect to join the experiment and need an already participating address as an invitation code to join, at which time the participant will get large numbers of invitations.
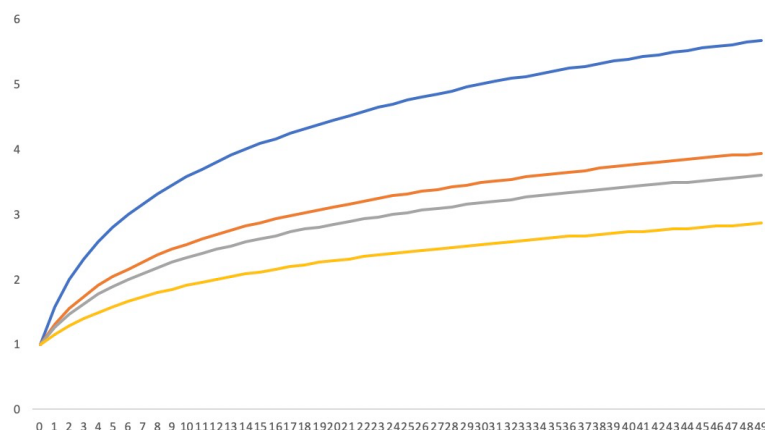
Token Economics

The maximum supply of ANTS tokens is 10 billion, which can only be earned through "Keep Promise" agreements. The ANTS generated by the participants through the "Keep Promise" agreement will be divided into three parts.

85% to the participants.

10% to investors through the cooperative DEFI/Staking mining pools.

5% to Ants Network Lab for development and maintenance costs.

The initial daily supply of ANTS tokens is 10w ANTS, and the share is allocated based on the factor *personRewardRatio* of the participant's invitation factor *baseRewardRatio* and daily incentive factor *dayRewardRatio*. Therefore, when there are fewer participants, participants will get a high incentive, and the daily incentive *personRewardRatio* allocated to individuals is affected by both the daily incentive coefficient *dayRewardRatio* and the invitation coefficient *baseRewardRatio*, and the earlier participants join, the higher the incentive will be allocated to those who join later.

$$personRewardRatio = baseRewardRatio * dayRewardRatio$$

$$personReward$$

$$= \frac{personRewardRatio}{\sum_{0}^{TotalNumber} personRewardRatio}$$

$$* TotalReward_{Daily}$$

As the number of participants increases, the incentive allocated to

users will become small, in order to ensure that participants can comply with the "Keep Promise" agreement under sufficient incentive, the daily supply of ANTS tokens will be dynamically adjusted with the number of participants, and the supply of ANTS tokens provided for each additional number of participants will be increased by K from the initial supply. *StageNumber* is the preset ladder number, if the current ladder is one for every 10w participants and the growth factor K is 20%, then the supply of ANTS tokens will be adjusted upward by 20% for each additional 10w participants, after repeated calculations, there is still a good incentive in the case of too many participants, and at the same time, it will not cause over-inflation of ANTS tokens. over-inflation.

$$TotalReward_{Daily}$$

$$= InitialReward * \left(1 + K * floor\left(\frac{TotalNumer}{StageNumber}\right)\right)$$

About Destruction

The 7-day incentive deducted from the participant's penalty will be destroyed directly to the 0x00000000000000000000000000000000 0000dead black hole address. The rest of the specific destruction rules will be reflected and explained in detail in the second experiment.

Punishment and Quit

The lab believes that "Keep Promise" is the cornerstone of human civilization. As mentioned previously, the daily incentive factor increases exponentially over time, which means that the longer you keep your word, the higher the number of incentives. If a participant transfers tokens and opts out of the "Keep Promise" agreement early, Ants Planet will not remove the participant immediately, but will check at a random time each day to see if all participants have enough tokens in their addresses to be punished and removed. If a participant only temporarily transfers tokens and replenishes them quickly, the program may not be able to detect it, but at the same time it is taking a very high risk. Once the penalty is removed, in addition to losing 7 days of incentive, you will lose all the number of invitations and will not be able to join again for 7 days. If you want to rejoin the experiment after being penalized, you will have to wait for the penalty to end and start again.

The agreed period of one "Keeping promise" is 90 to 180 days, and the termination of "Keeping promise" will depend on the participant himself. If you keep the tokens held in your tied wallet account, the reward will continue to be paid until the 180th day. When you have

participated for 90 days, you will no longer be affected by the 7-day lockout and all incentives will become unlocked and can be withdrawn at any time, and the program will stop issuing incentives. After you exits normally, you can join the experiment again at any time with the same rules.

Milestone

Ants Network Lab will design ten chapters in the next 10 years to experiment and build digital society models and ANTS token economic system from different dimensions. Each future chapter is related and independent experiment to solve problems in sociology and build an efficient global network for digital society.