Plan to Earn project - the Documentation

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Contents

(Since the project orientation is not relevant to the context of solving supply chain problem, I've asked the permission of creating dApp in another field with Dr. Lei and got his approval to complete this project.)

1 Introduction

In the developing field of blockchain, many problems from traditional industries have been financialized using the standards of tokens and the mechanism that is designed using smart contracts, such as art, music, game, e.t.c. From the middle of 2021, the gaming dApp named Axie Infinity [5] has opened the new blockchain applications of "... to earn" with the category of play-to-earn. Axie designed a decent tokenomic and mechanism that helps user gain financial benefits from investing and playing the game smartly. The success in designing and balancing the combination of gaming and earning from the Axie Infinity mechanism has provided an enormous community that peaked at 2.7 million users at the same time [6], bringing the total market cap of the game up to more than 1 billion USD (based on data from CoinGecko [3]. Following the first creation, hundreds of gamefi dApps have been developed and attracted a huge set of customers to the blockchain industry for the purpose of gaming and investment. The trend continues with numerous brilliant contexts of financial integration in solving traditional problems, such as:

- Run to earn: The projects that helps the health enhancement with the product of phone application that reward tokens for runner, some popular dApps are StepN from Solana (with GMT/GST tokens) [9], stepApp (FAT token) [8], Sweat from Near (SWEAT token) [1], e.t.c
- Shop to earn: Brought shopping application into blockchain with new designed tokenomic of reward distributing from shopping, with the most popular dApp is ShopNEXT from BSC (token NEXT) [7]
- e.t.c.

From those inspirations, this project will propose a similar-but-different model of "Plant to Earn" for the purpose of environmental enhancement using blockchain and tokenomic design. The "Plant to Earn" dApp is expected to build attraction amongst nature lovers and environmental preservationists through the double purpose of using this decentralized application in planting and making profits

2 “Plan to Earn” decentralized application

2.1 Project purpose

“Plant to Earn” is a planting decentralized application that aims to encourage the environmental contribution in tree planting with the attractive tokenomic design which can help users gain back money in the progress of donation for tree planting. The project is 100% non-profit and not designed for the financial advantage of developers when all the money surplus will be programmed to directly transfer to verified planting firms for forestation and forest recovery activities.

2.2 Project’s working mechanism design

To obtain the goal of maintaining the consistency of dApp, the design and tokenomic of this application are different from other projects in the big category of “... to earn”. The majority of the other projects that require users to do certain tasks for incentive earning failed to maintain consistency and stability in active users because of the tokenomic orientation of “everyone can make profit from using the app”. From Axie Infinity of play-to-earn to StepN of run-to-earn, the incentive tokens are distributed for everybody that attends to play and use the dApp, which makes the token cannot maintain a stable price (since people keeps getting unlimited incentive in an application using and constantly selling). Under the inflation threat of continuous selling pressure, the price of the incentive token of those projects keeps decreasing to an incredibly low level and reach to the point that is nearly equal to zero, making the earning meaningless and people stop using the application because the thinking of it’s no longer profitable.

In order to avoid the predictable inflation scheme for the model which may cause the collapse of the dApp one day, the “Plant to Earn” application suggested a different way to build a more stable business model. The project will have no naive token (to avoid inflation from the selling pressure) and use ETH (and wei) as the main currency for any operation within the dApp. Moreover, in this project not “everyone” but only the “smart investor” can receive the incentive from the application, which helps in decreasing inflation and maintaining sustainability for the money flow of the dApp. A more detailed business model of how the inflow and outflow money is going to be distributed will be presented in section 3.

2.3 How does this project works?

The project will connect with 3 different verified tree planting projects and host the open donation. Each user can donate to their favorite tree planting project for at least 10 wei to an unlimited maximum amount. The smart contract owner (fund creator) can determine the maximum donation slot for each campaign (the same for all three donation projects) and each wallet can only donate once (to avoid manipulation of incentive which will be discussed later). After the donation section, all the donated money from each group of projects will be automatically and directly transferred to the project's account to start planting. From 3 donation group that the user can select, the incentive will be distributed amongst contributor that donates for the project that creates the most impact on the planting area (e.g 3 people donate for project A, 2 people donate for project B, 1 person donates for project C then only that 1 person in project C donation could gain all the incentive if project C has the most impact in planting compare to other projects after a year). The life cycle of the smart contract includes separate phases of:

1. Opening phase: Introduction of the 3 planting projects for the donation, open the donation for each project with limited slots.

2. Closing phase: Occurs when all the slot is filled or manually closed by the owner for the in time of planting transaction. The donation is no longer available in this phase.

3. Fund transaction phase: This phase start right after the second phase, the smart contract will automatically send the funds from donation of all project to planting firms wallet.

4. Planting and airdrop: This phase will occur in 1 year, the three projects is going to process the planting activities and report back the planting result and impact after 1 year. The smart contract will evaluate the result to pick a "winner" project with highest efficiency and impact of planting and airdrop for dApp users that chose to donate the project earlier.

5. Initialize smart contract with the new campaign and repeat the loop.

The diagram 1 can clearly describe how to use the dApp. More details and a deep discussion on incentive calculation and distribution (e.g how many incentives can the winner takes) will be implemented in section 3.

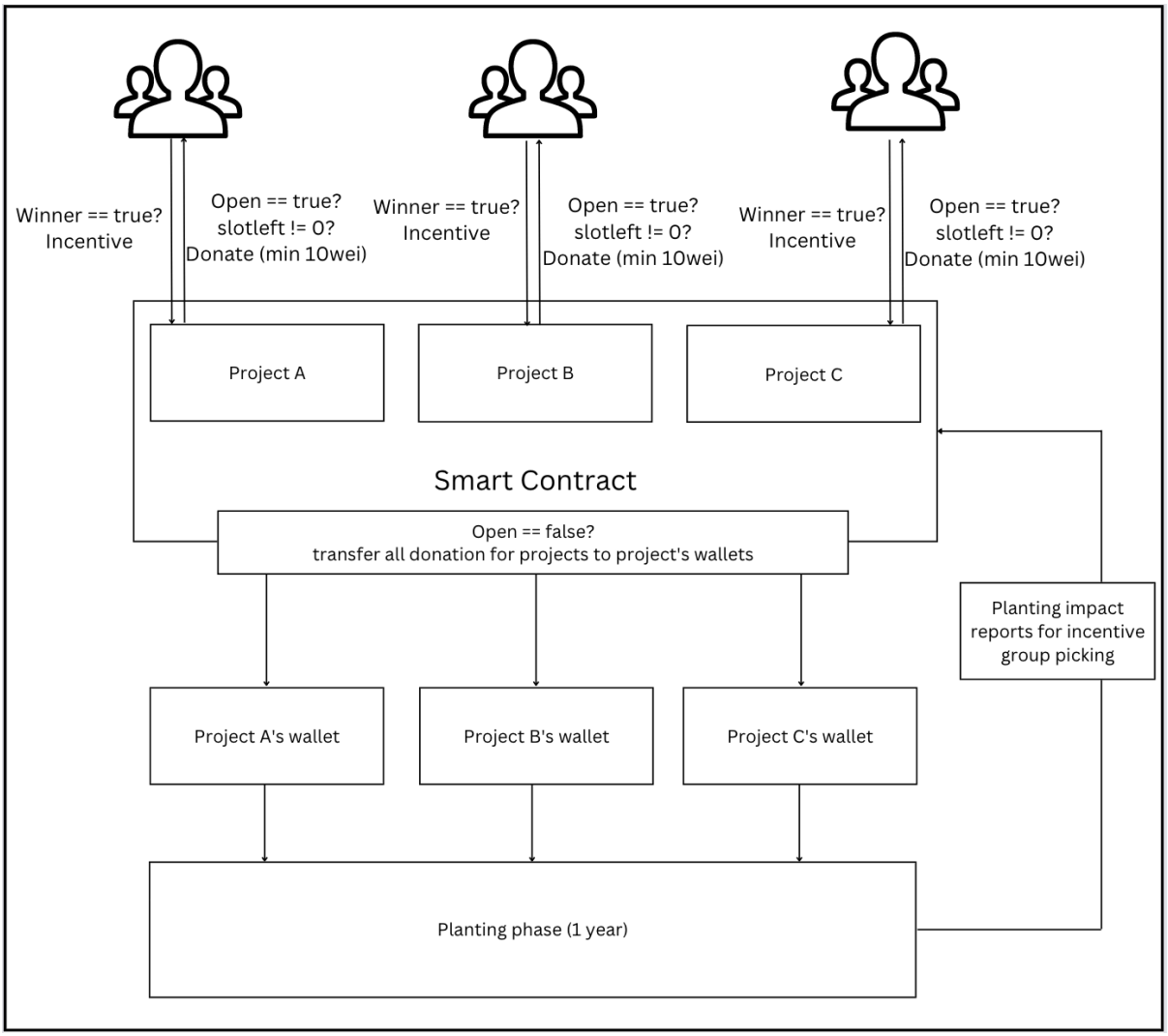

Figure 1: Life-cycle of all phases in one campaign from the dApp

3 dApp business model

The design of business model of the dApp is described as below:

- 60% of donation is going to be transferred to the planting projects (e.g if 100 wei is donated for project 1, then 60 wei is going to be transferred to their wallet after the donation phase closed)
- 40% of all the donation will be kept in the smart contract, and splited equally amongst all users in winner group as incentive.

The number of 40% for the incentive is to ensure that in the most ideal case when all the slots are filled and all participants donate the same amount of money, the incentive for the winning group will be larger than their initial investment amount (of 33.3% in the total fund). The model can not ensure that all the slots are filled in the donation campaign and the donation amount of each user, which makes it no guarantee for the incentive they'll gain (if they picked the winner project) will larger compared to the amount that they've donated (no profit guarantee, it's all about luck). The design of this model will mostly attract environment lovers to participate with only the tiny encouragement of incentive.

No user will have access to the information of donated funds for each project to avoid incentive manipulation. The mechanism also prevents any party's attempt at incentive manipulation by only donating for 1 project only, because the return incentives will be less than their donated funds (since the 40% of other projects' donation is not as much to cover their loss). All the monetary activities will occur using wei and ETH to prevent inflation and selling pressure that makes the incentive becomes less valuable over time. This design of the business model has sacrificed the guarantee of profit as an incentive for winners (and also sacrificed the idea of "everyone who attends can get the incentive" to protect the model's sustainability and profit for the small group of winners but also maintain the main purpose of collecting funds for tree planting and contribution for environmental reservations.

The diagram 2 will demonstrate the fund using of the smart contract in more details.

4 Project's blockchain platform

With the orientation of creating a non-profit project that can run on its own and maintain the highest efficiency in money use, the criteria of choosing a platform have to involve the requirement of "security" and "low gas fee". If successfully passed the testing stage, the project is expected to deploy in Polygon Network. Polygon Network [4] is a layer-2 platform from the Ethereum network, but scaled and designed for a purpose of fee decreasing (compared to the high gas consumption of Ethereum) without sacrificing its security and decentralization. With the scaling technology of Zk-Rollup [2], Polygon network provides a fast, cheat and secure platform to enhance user's experience and is suitable for our project to land on.

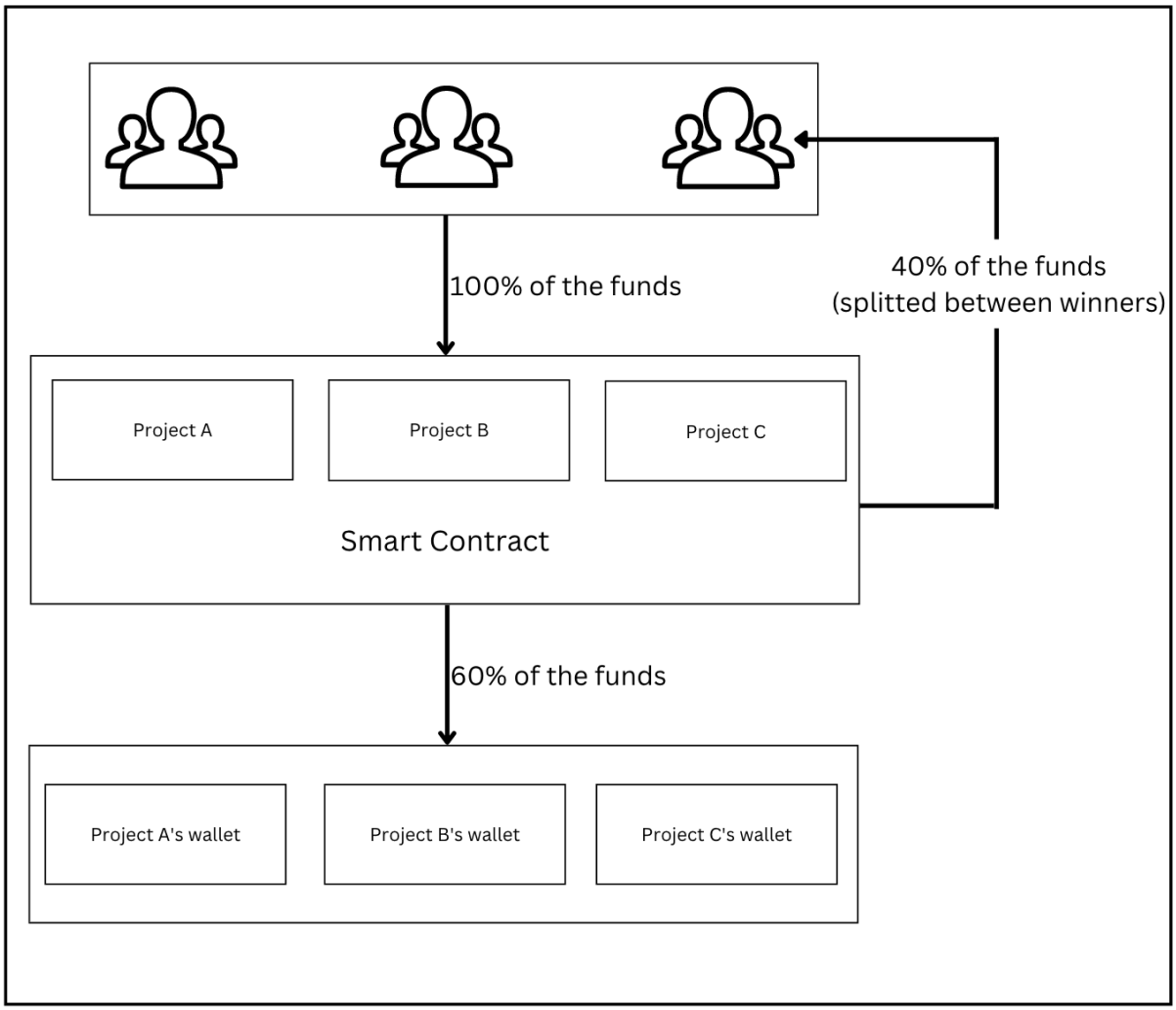

Figure 2: dApp business model

5 Our developing roadmap

The roadmap of project development is evaluated with high consideration is presented in 1

6 The future vision of the project

"Plant to Earn" project hopes to bring new influences in planting and environment improvement with the unique design to encourage donation for forestation. From the mass adoption of the society for Bitcoin and cryptocurrency, I strongly believe that the growing of the blockchain industry will not stop at the financial affection but can get

Time	Event
01 Sept 2022 - 01 Oct 2022	Coding phase and testing using multiple Metamask accounts
01 Oct 2022 - 01 Dec 2022	Research and evaluate reliable planting projects/firms to collaborate.
01 Dec 2022 - 31 Dec 2022	Opening phase of campaign 1 with 10 slots of donation per projects.
01 Jan 2023 - 31 Dec 2023	Closing phase, fund transaction and planting.
01 Jan 2023 - 10 Jan 2023	Data collection of projects impact, airdrop distribution.
Up next	Launching of the second campaign (published soon).

Table 1: Project's timeline and roadmap

users' attention and positive impact on the environment as well and this project is the first and important step of achieving that goal.

References

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