OpenDoor Protocol

Abstract

OpenDoor is a liquidation and settlement protocol, built to enable trustless collaboration.

The protocol's unique cloud-based infrastructure allows for anyone to easily initiate or participate in a collaborative project without the need for trust. OpenDoor Protocol was designed to develop a decentralized collaboration schema in a weak credit and fast-changing environment. The key concept for OpenDoor is streaming the collaboration process and makes collaboration less dependent on credit. A collaboration is defined by a blueprint of task blocks. A collaboration behavior is a building block.   Any task delivery is cleared with a token transaction. OpenDoor can interoperate with a centralized finance system for risk control and dividend distribution.

This white paper is a description of the protocol, which is built on the Ethereum blockchain.

1 Introduction

We are in an information overload era, there is all kind of opportunities for everyone. It is easier to join in or start a business initiative, But the risk is in getting the reward that's worth the effort.

We have a similar issue when eCommerce took off 20 years ago which Paypal and Ali Pay solved. As the internet moved from a consumer network to a business playground. The major challenge for online collaboration is clearance and settlement.

Current web-based collaboration faces a dilemma between reliability and openness. Web giants like Facebook and Google are using the centralized platform as credit endorsement to solve the clearance concerns. However, a centralized monopoly has a strict process control and makes the interests unbalanced, it deviates from the original intention of open and flexible collaboration.

On the other hand, a decentralized credit system based on blockchain proved that algorithm-based credit can build up an ecosystem with community consensus. But the success is still at the laboratory level. No blockchain project has been implemented in a specific online business scenario.

To solve this dilemma, a hybrid approach is needed. We need to leverage the process control with blockchain-based trading credit. This is the basic principle behind the OpenDoor. OpenDoor aims to be the automated liquidation and settlement protocol for business trade and collaboration. It is the "Paypal" for online business collaboration.

2 Core Idea

A traditional collaboration project usually starts with a business goal and a

loosely defined business model and workflow process. Although there are milestones during the collaboration process, it is hard to gauge the contribution of a specific task.

We need to change the workflow driving process to the so-called quantum process. It is a combination of lego type of atomic task block with the streaming process control.

A collaboration is defined by a set of atomic tasks that are aligned with a business process. Each task block is associated with a non-fungible token representing its right/value.

Everyone joins a collaboration by either completing a task or merging the task to the stream collaboration process. Like building blocks on a Lego. Each participant is free to join and is independent, and does not need to worry about the profit-sharing if the project succeeds.

3 What We Mean By Collaboration

OpenDoor Collaboration focuses on traffic, content, and funding support for a Project or IP-oriented ecosystem.

The project needs driving. A project can be registered in the Opendoor system and publish its workflow and needs and can call for support and assistance.

For example, IP incubation and NFT; Personal agent; clothing customization, etc...

The IP-oriented ecosystem is an open end. It publishes a whitepaper and economic model and calls for the participants. One example is FMCG (fast-moving consumer goods), like tea drinks or health food; Cultural and creative products.

Examples of collaborations:

Traffic Sharing
1. Private domain traffic collaboration
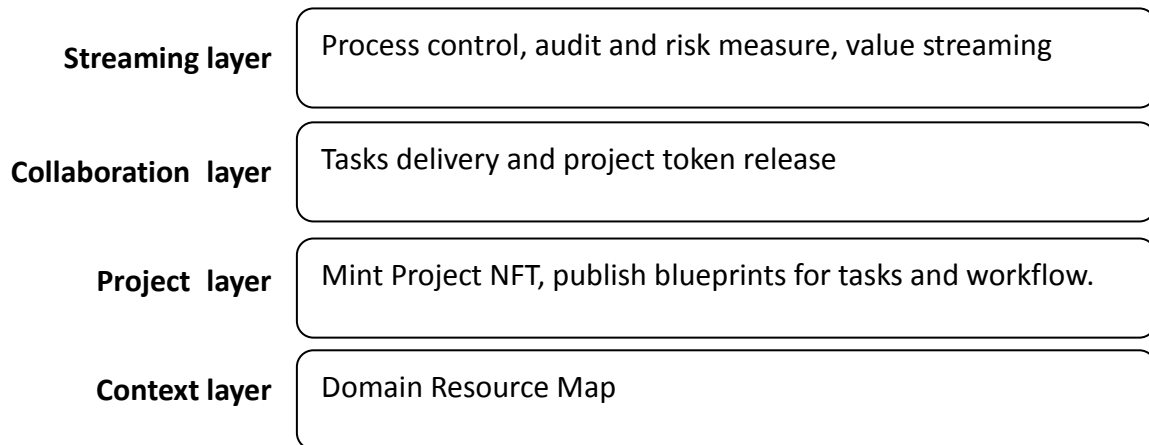2. Webcast and promotion.
3. Brand Co-creation

Content help
1. Prepare presentation materials
2. Blog or Twitter
3. IP design and story

Financial support
1. Peer to Peer finance
2. Angel investment
3. Crowdfunding

4 How the OpenDoor Protocol works

The OpenDoor Protocol is 4 layers structured.

Streaming layer	Process control, audit and risk measure, value streaming
Collaboration layer	Tasks delivery and project token release
Project layer	Mint Project NFT, publish blueprints for tasks and workflow.
Context layer	Domain Resource Map

Context layer

A resources map is a distributed resource aggregation platform, composed of traffic, content, and funding resources. It has an algorithm-based measure to gauge a resource for its value and characteristics. And enable the automated match for the collaboration among resources.

Project layer

Define a project or an ecosystem with a workflow and economic model. Mint an NFT to represent the Project. Create the project account to track the project. The accounts consist of three data pools for the project: Capital pool, Token pool, and Divident pool.

Capital pool: Contains all the capital for a project. Funds in the capital are released according to the workflow. There is an auditing process to monitor the capital release. And there is a risk ratio to force project liquidation.

Token pool: Contain the project token(fungible token). It is the ticket for dividends.

Divident pool: Contains all the project gains. Including all income, capital gains, and assets. A divident is distributed to a token holder on schedule by a smart contract.

Collaboration layer

Each member can contribute traffic, content, or funding to a project. The delivery is a task block and should be able to fit in the project assembly plan. Each task delivery is a building block, and it will automatically exchange for project tokens according to the project token model. The token represents the

divident and can also be traded in OpenDoor DEX.

Streaming layer

This layer monitors each ongoing project. And tracks the threshold of their data pools. In case it deviates from the predefined plan, it can pause, restart, stop, or relinquish the project and force the liquidation.

Divident pool will grow

Divident

Capital

token release increase as time
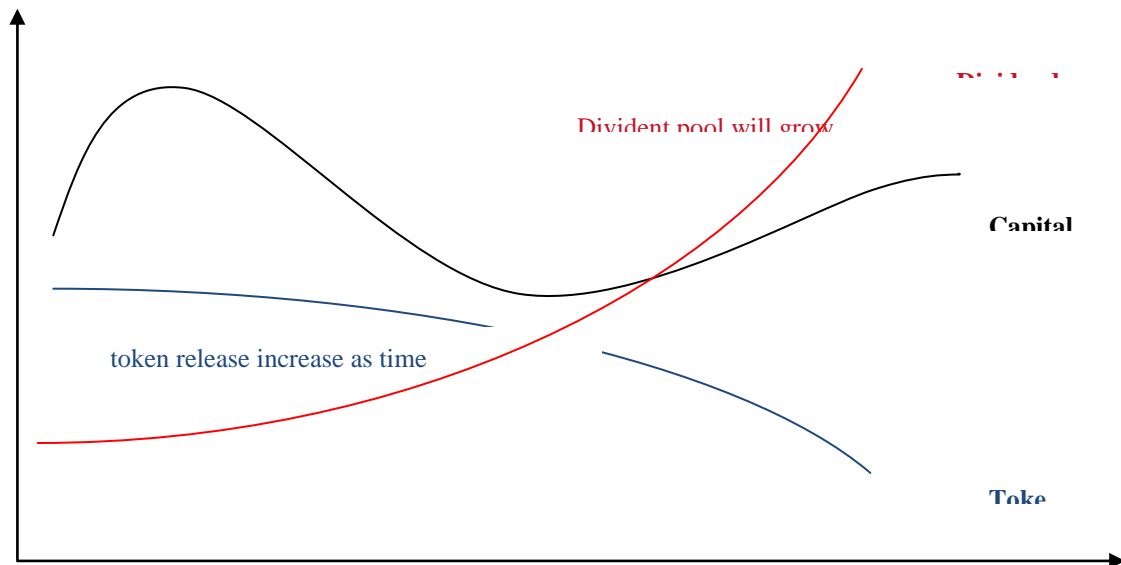
Toke

5 Settlement and liquidation

1. Everyone can create the task blocks. The task could be specific to a project and merges to the project. the transaction is settled with a project token according to a smart contract.
2. Project tokens represent the divident right of the project and can be exchanged in OpenDoor DEX.
3. If a project is liquidated, the residue value in the capital pool will transfer to the divident pool to be distributed to the token holder.
4. The task block could also be generic and be used by more than one project. A generic task block can mint a non-fungible token (NFT) to represent its IP.
5. A block can build blocks to form a growing-up IP. For example, a comic author makes a nice storyboard, an artist makes a cartoon for it, and then a fashion designer turns it into a cloth brand.

6 Risk Control

6. Any project needs to maintain a minimal buffer in its capital pool. The project will be liquidated if its capital pool or divident pool is below the threshold level.
7. The system will maintain a credit score for member resources.
8. Encourage the setup of an investment pool to aggregate the investments for a set of IPs, smooth out risk, and provides mutual insurance.

7 ATC and Protocol Governance.

ATC (alpha transaction coin) is the token to support the OpenDoor protocol implementation and for OpenDoor ecology development and governance.

Why Alpha and ATC

Alpha α=1/137.0359997 ，the **fine-structure constant**, is a fundamental physical constant. It is a dimensionless quantity related to the elementary charge e, Planck constant $\hbar$, speed of light in vacuum c by the formula $4\pi\varepsilon_0\hbar c\alpha = e^2$. It determines the fundamental structure of our Universe, and any changes to it will make life impossible to occur in the Universe.

The Economic model

1） ATC total initial issues is 1370359997
2） Three years later, the annual inflation is 0.73% (= 1 / 137)

	Initial	4th year	5th year	6th year	7th year
increase	1370359997	10002627	10009946	10083011	10146610
total	1370359997	1371362624	1381372570	1391455581	1401612191

3） The initial issue of 1370359997 was released according to the golden section method:

3.1: 61.8% (golden section) of the ATC, i.e. 846882478, used for support and cultivating OpenDoor ecology.

3.2: for the remaining 523477519 ATC, 61.8% of them, namely 323509107 ATC, are used to reward investors of OpenDoor platform. The remaining 199968412 is reserved for the technology and management team and related resources for phased release.

4) ATC and Ecology Consensus

1) ATC is the voting ticket to decide any protocol update or important issues regarding OpenDoor ecology governance. Every ATC owner has an equal right for voting.

2) OpenDoor will maintain an investment pool for each IP domain or business sector. The investment pool will provide seeds investment for IPs.
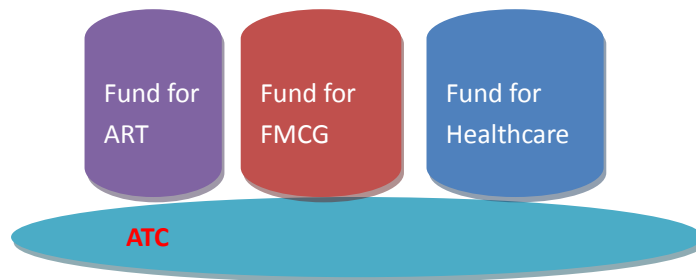
3) Each project or IP should be staking 1.37% to 13.7% of its token with ATC. So that it can hedge the risk if it fails and rewards back if it is a success. This bundling relationship helps reduce the risk and enhances the mutual benefit with resource sharing and consensus builds up.