MaxDex Blockchain Decentralized Exchange Whitepaper

Version： V2.0

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1.Project overview

1.1 Project Introduction

This project is a decentralized cryptocurrencies exchange on the blockchain. Anyone can buy and sell various cryptocurrencies on this exchange, or pledge cryptocurrencies for liquidity mining to earn stable risk-free income.

The main purpose of this exchange is to solve several major problems of decentralized exchanges such as Uniswap:

(1) The problem of impermanent loss. Users who pledge for liquidity mining on exchanges such as Uniswap will face impermanent loss, it will cause loss of wealth. But staking on this exchange, because this exchange uses a new way to trade, so there is no problem of impermanent loss anymore, users won't lose any wealth because of it, and there will only get stable income without any risk of loss.

(2) Liquidity mining needs to pledge two tokens at the same time. When users pledge for liquidity mining on exchanges such as Uniswap, they need to pledge two kind of tokens at the same time, and also the amount of the two tokens needs to maintain a fixed ratio, which increases the user's liquidity mining costs. However, this exchange only needs to pledge one token, or two tokens and the amount of the two tokens does not need to maintain a fixed ratio for liquidity mining.

(3) The problem of a large amount of malicious tokens. Since Uniswap's tokens are published without any review mechanism, there are many malicious tokens in it, and users will suffer irreparable losses when trading these tokens. The tokens of this exchange need to be voted and reviewed by the community before they can be traded on market, so that many malicious tokens can be avoided, and users can avoid losses.

The exchange will charge trade fee for each trade, 80% of the trade fee will be automatically distributed in proportion to the users who provide liquidity for the trade pair, and 20% will be automatically deposited in the exchange's vault as income.

The exchange will issue the official token MXDX, with a total supply of 1 billion. Users can purchase it in the presale stage, or obtain it through liquidity mining or purchase it from the public market in the future. Owners of MXDX token can vote for platform's management, also own the exchange vault.

1.2 Basic concepts

In order to facilitate readers to better understand the content of this whitepaper, some basic concepts are defined as follows.

USDZ Stablecoin: USDZ is a stable token issued by this platform. Its price is constant and equivalent to 1 USD, and it can be exchanged with mainstream stablecoins USDT/USDC/DAI at a ratio of approximately 1:1.

Base token: In this exchange, the base token is the USDZ token, which serves as the base token in all trade pairs.

Target token: In this exchange, the token that uses the base token USDZ for pricing and trading in all trade pairs is the target token.

For example, in the trade pair "ETH/USDZ", ETH is the target token, USDZ is the base token, and ETH uses USDZ for pricing and trade.

1.3 USDZ as the base token

The stable cryptocurrencies tokens of the blockchain include USDT/USDC/DAI, etc., but these tokens all have some potential risks that may exist in their own way, and their prices may change drastically at some point due to their own problems. In order to prevent this possible risk in the future, the platform decided to use the stable cryptocurrency USDZ designed and issued as the basic token by our platform. Its price is constant and equivalent to 1 USD. UDSZ and the mainstream stable cryptocurrencies USDT/USDC/DAI can exchange with each other about 1:1, and the platform will use the blockchain oracle service to automatically obtain the latest prices of these mainstream stablecoins. If the price of a certain mainstream stablecoin in the market changes, it's ratio of exchange with USDZ will also change accordingly in realtime, so that USDZ can always maintain a stable price level of about 1 US dollar.

1.4 How to get the base token USDZ

The stable cryptocurrency USDZ and the mainstream stable cryptocurrencies USDT/USDC/DAI can exchange with each other at a ratio of approximately 1:1. This exchange will provide trade for exchange. Anyone can use USDT/USDC/DAI to exchange for approximately the same amount of USDZ. At the same time, in other decentralized exchanges, USDZ and USDT/USDC/DAI trade pairs will also be created, and anyone can easily exchange them. USDT/USDC/DAI can be exchanged for USDZ, and USDZ can be exchanged for USDT/USDC/DAI.

2. Trade method

2.1 How to publish cryptocurrency to trade

All cryptocurrency need to publish to trade. The process is as follows:

(1) Anyone can submit an application to publish a cryptocurrency, a certain amount of target tokens must be submitted. The initial price of the target token needs to be set by submitter.

(2) After submitting, wait for community members to vote.

(3) After specified time, if the publish application is been approved.

Since Uniswap's tokens are published without any review mechanism, there are many malicious tokens in it, and users will suffer irreparable losses when trading these tokens. The tokens of this exchange need to be voted and reviewed by the community before they can be traded on market, so that many malicious

tokens can be avoided, and users can avoid losses.

2.2 How to calculate the trade pair's price

When a trade pair is published, its target price is set by the person who submitted the publish application, and the price is included in the publish application, and the submitter can continue to modify it before the first trade is completed, until the price when the first trade is completed is the initial price, after that the submitter cannot modify the price anymore, and the price thereafter is determined by the trade itself.

When users trade on exchanges such as Uniswap, if the trade volume is large, it will cause drastic price changes and increase the user's trade costs. However, due to the use of a new trade price algorithm in this exchange, the price changes will be much smoother, and the trade will be smoother and more low cost for users.

For example, when the "ETH-USDZ" trade pair for publish application, the target price set by the submitter is

1ETH = 1000USDZ, after the publish application is successful, if there has been no trade, the submitter can continue to modify the target price until the first trade is completed, then the trade price is the initial price, and then the price will change with buying and selling automatically.

The calculation formula for the price to automatically change with the buying and selling is as follows:

$K = 10$ is the price variation coefficient set by the system, which is a constant.

Suppose the last trade price is P1, the new trade price is P2, the trade fee is $F = 0.2\%$, X is the amount of the target token in the trade pair, and Y is the amount of the base token USDZ in the trade pair.

After each trade is completed, the price of the trade pair will be automatically updated to the new trade price.

(1) Assuming that the user pays ΔY amount of basic tokens, ΔX is the amount of target tokens that can be obtained, and the calculation formula is:

$$\Delta X = \Delta Y \cdot (1 - F) \ / \ (P1 \cdot (1 + (\Delta Y / P1) / (X \cdot K)))$$

The formula for calculating the new trade price is as follows:

$$P2 = P1 \cdot (1 + (\Delta Y / P1) / (X \cdot K))$$

For example: If there are 100 ETH and 100,000 USDZ in the trade pair ETH/USDZ, the last trade price is 1ETH = 1010USDZ, and the user pay 2020USDZ to buy ETH, the amount of ETH that will be obtained is

$$1.992 = 2020 \cdot (1 - 0.2\%) \ / \ (1010 \cdot (1 + (2020/1010)/(100 \cdot 10)))$$

The new trade price is

$$1012.02 = 1010 \cdot (1 + (2020/1010)/(100 \cdot 10))$$

(2) Assuming that the user wants to purchase ΔX amount of target token, ΔY is the amount of base token USDZ that needs to be paid, and its calculation formula is

$$\Delta Y \ = \ \Delta X \cdot \ (1 + F) \ \cdot P1 \cdot (1 + \Delta X/(X \cdot K))$$

The formula for calculating the new trade price is

$$P2 \ = \ P1 \cdot (1 + \Delta X/(X \cdot K))$$

For example: If there are 100 ETH and 100,000 USDZ in the trade pair ETH/USDZ, the last trade price is 1ETH = 1010USDZ, if the user needs to buy 2 ETH, the amount of USDZ that needs to be paid is

$$2028.088 \ = \ 2 \cdot \ (1 + 0.2\%) \ \cdot 1010 \cdot (1 + 2/(100 \cdot 10))$$

The new trade price is

$$1012.02 \ = \ 1010 \cdot (1 + 2/(100 \cdot 10))$$

(3) Assuming that the user sells ΔX amount of target tokens, the calculation formula for the amount ΔY of the base token USDZ obtained is:

$$\Delta Y = \Delta X \cdot (1 - F) \cdot (P1 \cdot (1 - \Delta X/(X \cdot K)))$$

The formula for calculating the new trade price is

$$P2 = P1 \cdot (1 - \Delta X/(X \cdot K))$$

For example: If there are 100 ETH and 100,000 USDZ in the trade pair ETH/USDZ, the last trade price is 1ETH = 1010USDZ, and the user sells 10 ETH, the amount of USDZ that will be obtained is

$$9979.002 = 10 \cdot (1 - 0.2\%) \cdot (1010 \cdot (1 - 10/(100 \cdot 10)))$$

The new Trade price is

$$999.9 = (1010 \cdot (1 - 10/(100 \cdot 10)))$$

(4) Assuming that the user wants to obtain ΔY amount of basic tokens, the calculation formula for the amount of ETH ΔX that needs to be paid is

$$\Delta X = \Delta Y \cdot (1 + F)/(P1 \cdot (1 - (\Delta Y/P1)/(X \cdot K)))$$

The formula for calculating the new trade price is

$$P2 \ = \ P1 \cdot \ (1 - (\Delta Y/P1)/(X \cdot K))$$

For example: if there are 100 ETH and 100,000 USDZ in the trade pair ETH/USDZ, and the last trade price is 1ETH = 1010USDZ, if the user needs to obtain 2020 USDZ, the amount of ETH that needs to be paid is

$$2.008 = 2020 \cdot (1 + 0.2\%)/(1010 \cdot (1 - (2020/1010)/(100 \cdot 10)))$$
The new trade price is
$$1007.98 = 1010 \cdot (1 - (2020/1010)/(100 \cdot 10))$$

2.3 How to trade

All trade on this exchange are carried out in trade pairs. All trade pairs are a combination of "target token/base token". Anyone can buy or sell target tokens in trade pairs. If you buy the target token, you need to use the base token USDZ, and if you sell the target token, the user will get USDZ tokens.

Users can also make trade between target token and target token. The system will automatically find the respective trade pairs of the two target tokens, and auto trade in the two trade pairs, and finally complete the trade between the two target tokens. In this case, the system will charge the trade fee twice, once for each trade pair.

Therefore, in this exchange, not only the trade between "target token/base token" can be automatically completed, but also the trade between target token and target token can be automatically completed. For users, the trade is very easy and convenient.

2.4 Trade fee

The exchange will automatically charge a trade fee when the user trades. The trade fee is 0.2% of the trade amount. It is charged from the buyer when buying and charged from the seller when selling. Fee are all made up of USDZ tokens.

80% of the trade fee will be allocated to the liquidity provider of the trade pair, and the distribution will be made according to the ratio of the liquidity quota provided by each liquidity provider to the total quota of the trade pair. The other 20% of the trade fee will be automatically deposited in the exchange vault as the exchange's income. The ownership of the vault belong to the holders of the platform token MXDX, and the quota of ownership according to their respective MXDX tokens quota, their quota percentage is the percentage that their MXDX tokens in the total of MXDX tokens.

For example, the price of the trade pair ETH/USDZ at this time is 1 ETH = 1000 USDZ, if the user buys ETH with 100 USDZ, the trade fee paid by the user will be 0.2USDZ; if the user sells 1 ETH, assuming if he get 1000 USDZ before deducting the trade fee, the trade fee paid by the user will be 2USDZ, and the user will actually get 998 USDZ after deducting the trade fee.

2.5 How to remove trade pairs

The exchange's process to remove trade pairs is as follows:

(1) Anyone can submit an application to remove a trade pair. In the application, the reason of removing and the time of removing need to be submitted.

(2) After submitted the application to remove the trade pair, wait for the community members to vote for agree or not.

(3) If vote success, then the removal application is successful, otherwise the removal application fails.

If the application is successful, the trade pair will stop for trade after the

application time, and the liquidity provider can remove the liquidity added by themself, and this trade pair will be moved to the list of removed trade pairs, and will no longer appear in the normal trade pair list . If the application fails, the trade pair will remain in normal list, and trade will continue as normal.

3. Liquidity mining

3.1 Add liquidity

After the trade pair is created and published, anyone can add liquidity to the trade pair, and can choose to add any token or two tokens in the trade pair, and it can be any amount. If two tokens are added at the same time, they do not need to maintain a specific amount ratio between them. After add liquidity to a trade pair, the liquidity certificate of the trade pair will be automatically obtained. The liquidity certificate is the proof of the liquidity provided by the user. With this proof, the user can share the trade fee income of the trade pair, that is liquidity mining.

When users pledge for liquidity mining on exchanges such as Uniswap, they need to pledge two tokens at the same time, and also the amount of the two tokens needs to maintain a fixed ratio, which increases the user's liquidity mining costs. However, this exchange only needs to pledge one token, or two tokens also and the amount of the two tokens does not need to maintain a fixed ratio for liquidity mining.

In addition to trade fee income, add liquidity can also obtain the distribution of the official token MXDX. 50% of the total token MXDX will be automatically distributed to users that participated in liquidity mining, according to the amount of pledge and the length of time, the token MXDX is automatically distributed until it run out of all. So the earlier you participate in liquidity mining, the more MXDX tokens you will get.

In the trade pairs of exchanges such as Uniswap, there are problems such as low utilization rate and dilution of the income of liquidity mining when there are too many pledged tokens. In order to solve this problem, the amount of tokens pledged in trade pair on this exchange is dynamically restricted, this way solve this problem well. The method of this exchange is: the system will automatically calculate the sum of the trade volume of the tokens in the trade pair within the last 24 hours, and automatically limit the total amount of the pledged token to no more than 50% of it. The redundant part will auto set as a backup pledge tokens. Until the total amount of pledged tokens exceeds 50% of the total trade volume in the last 24 hours, the system will automatically set part of the backup pledge tokens as normal pledged tokens, so it can reach 50% again. The liquidity part that set as a backup pledge tokens does not participate in trade and cannot share the income of liquidity mining. Its role is only as a backup, and pledgers can also withdraw these tokens at any time.

After add liquidity, users can withdraw the fee income and distributed MXDX tokens that they got at any time.

3.2 Remove liquidity

After users add liquidity to a trade pair, they can remove some or all of the liquidity at any time. **The amount of tokens that users pledged when adding liquidity will be returned as same amount when removing liquidity. Therefore, in this way, the problem of impermanent losses from liquidity mining is been avoided . When users pledge tokens on uniswap and other exchanges for liquidity mining, they usually suffer losses due to the problem of impermanent loss, but this problem will no longer occur when pledging tokens for liquidity mining in this exchange.**

When the user removes pledged tokens in the trade pair, if the amount of the token in the trade pair is sufficient at this time, it will be removed directly and the same amount will be returned to the user. If the amount of tokens is not enough, the system will remove all the tokens and return them to the user, and the remaining part will be compensated with another token in the trade pair. The amount of compensation is calculated as the equivalent value based on current price of the trade pair, the system will return the compensated amount to the user. **Therefore, no matter how the price of the trade pair changes, this method will not cause impermanent loss. Users who add liquidity will only obtain stable income, and there will be no possibility of impermanent loss to lead to wealth losses.**

After the user withdraw the liquidity in a trade pair, the fee income and the distributed MXDX tokens corresponding to that part will be release to the user at the same time.

For example, there is an "ETH-USDZ" trade pair, which includes 100 ETH tokens and 100,000 USDZ, current price 1ETH = 1020USDZ.

If the user added 10 ETH and 2000 USDZ liquidity to the trade pair, now the user can remove either ETH or USDZ tokens, or remove both, and can choose to remove all or part.If the user remove all he will get 10 ETH and 2000 USDZ back.

If the user added 200 ETH and 2000 USDZ to the trade pair, and now the user remove all, the user will get 100 ETH plus 102000 USDZ and 2000USDZ.

4. Official platform token

The platform will issue its own official token MXDX, with a total supply of 1 billion. Users who own the platform token are community members. Community members have the rights to vote on community affairs, and the amount of MXDX tokens they own is their weight of vote, and community members also have the ownership of the exchange vault. The share of the amount of MXDX tokens they own in the total amount of MXDX tokens, is the share of the vault they own.

The MXDX tokens of this platform not only have the rights to manage, but also have actual economic value. The 20% trade fee of this platform and other income will be automatically deposited into the platform vault, and who owned the MXDX token have the ownership and distribution rights of this vault, their rights according to their

MXDX tokens proportion. The total supply of platform tokens is 1 billion and the amount will not change, so as time lapses, the platform's income will be more and more and there is no upper limit. From that we can predict that the potential economic value of the MXDX tokens is very great, and the price of MXDX token will have no upper limit over time in the future.

All community affairs are voted by community members, such as: set the value of trade fee, vote to publish trade pair, vote to remove trade pair and so on.

The distribution plan of the platform token MXDX is as follows:

Public Presale: 20%

Presale the tokens to investors in the open market at low prices to raise the necessary funds for the development and expand of the project. Investors will get huge profit income. If all tokens are not sold out by the end of the presale period, the remaining tokens will be automatically sent to the part for the liquidity mining.

Development Team Reward: 20%

By awarding tokens to development team members as a reasonable reward for their long-term hard work, team members will work more efficiently and enthusiastically.

Liquidity Mining: 60%

Anyone can provide liquidity for the trade pairs of this exchange. In addition to obtaining trade fee income, they can also get the platform token MXDX as a reward for liquidity mining, so providing liquidity for trade pairs will get very rich rewards.

5. Members of the community

People who own MXDX tokens are community members, and the amount of MXDX tokens they own is their quota. Community members not only have the ownership of the exchange vault, but also have the right to vote on community affairs.

The amount of MXDX tokens owned by community members to the total MXDX tokens amount is the weight of rights they own. If community members vote to distribute part or all of the exchange's vault, the funds will be distributed to the community members according to their respective proportions. After the distribution is completed, the community members can withdraw their own share.

The community members have the rights to vote on the following events in the community:

(1) If someone submitted an application for publish a trade pair on this exchange, the community members can vote to decide whether to approve or decline it.

(2) If someone submitted an application to remove a trade pair from this exchange,

the community members can vote to decide whether to approve or decline it.

(3) Vote to revise the trade fee of this exchange. The initial default value is 0.2%. Any community member can submit an application to revise the trade fee.

(4) Vote to whether or not to distribute some or all of the funds in the exchange vault.

(5) Other items that may be added in the future.

6. Presale of platform token

This project plans to presale 20% of the platform token MXDX, a total of 200,000,000 to early investors before the official release of the exchange to raise funds for the project. The funds raised will be mainly used for project development and team expansion. In presale the mainstream stablecoin USDT is used for pricing and trade. During the presale stage, investors can directly use USDT tokens to purchase the platform token MXDX.

The presale is divided into 10 stages. In each stage, a certain amount of platform token will be sold at different prices. At earlier the price is lower, and at later the price is higher. After the amount of tokens in each stage is sold out, it will automatically enter the next stage until the end of the presale.

The list of the amount of tokens for sale in each stage of the presale and the price of the single token is as follows:

Stage 1		Stage 2	
Amount:	15,000,000	Amount:	15,000,000
Price:	0.01USDT	Price:	0.02USDT

Stage 3	
Amount:	20,000,000
Price:	0.04USDT

Stage 4	
Amount:	20,000,000
Price:	0.08USDT

Stage 5	
Amount:	20,000,000
Price:	0.20USDT

Stage 6	
Amount:	20,000,000
Price:	0.30USDT

Stage 7	
Amount:	20,000,000
Price:	0.40USDT

Stage 8	
Amount:	20,000,000
Price:	0.50USDT

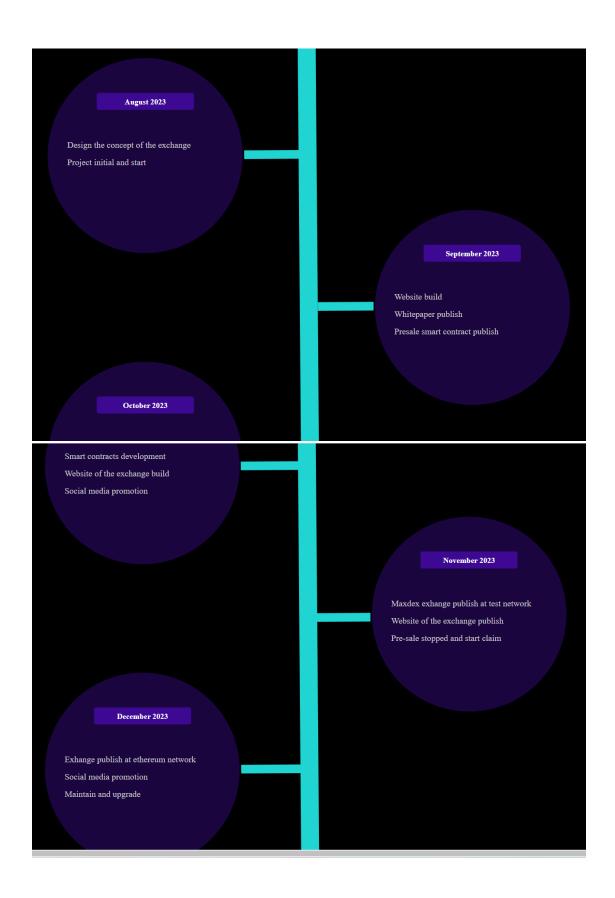| Stage 9	
Amount:	25,000,000
Price:	0.60USDT

Stage 10	
Amount:	25,000,000
Price:	0.80USDT

The duration of the presale is about 2 to 3 months. If 20% of the platform tokens are sold out in advance during this period, the presale will end early. After the presale is over, the official website will prompt that the presale is over, and remind investors to claim to receive the MXDX tokens they purchased during the presale. After claimed, the MXDX tokens purchased by the user will be automatically sent to the user's blockchain wallet address, users can see the MXDX tokens they purchased and their quantity in the wallet. After that, users can continue to keep these tokens for value up or trade them on exchanges.

And later the official website will prompt which third-party exchanges that MXDX tokens have been published for trade. It is estimated that the initial price of the platform token MXDX published on various exchanges will be about 1 MXDX = 1 USDT, which is much higher than the price that investors purchased in the presale stage, so investors buy MXDX in advance during the presale stage, and it is estimated that they can get huge profit in the future, which is a reasonable reward for investors' earlier investment.

7. Project roadmap

The roadmap of the project plan is as follows:

August 2023

Design the concept of the exchange

Project initial and start

September 2023

Website build

Whitepaper publish

Presale smart contract publish

October 2023

Smart contracts development

Website of the exchange build

Social media promotion

November 2023

Maxdex exhange publish at test network

Website of the exchange publish

Pre-sale stopped and start claim

December 2023

Exhange publish at ethereum network

Social media promotion

Maintain and upgrade

8. Team introduction

The project was created by an experienced sponsor with more than 10 years of blockchain related experience and development work as a lead engineer.

9. Legal notices

This whitepaper is only an explanation of this blockchain project, concepts and technical solutions, and does not constitute any financial investment advice or recommendation. Readers who read this whitepaper are deemed to have full capacity for civil conduct, as well as sufficient blockchain knowledge and cognitive ability, as well as sufficient legal and financial risk tolerance ability, and voluntarily fully assume their possible risks and consequences.

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