

xSwap

❖ Revision History

时间	Contents	Author
2020.03.07	First version	Snow

➤ Summary

xSwap is designed to support functionality for swapping stable-coins including USDx / USDT / USDC / TUSD / DAI / PAX, etc. The exchange rate is set by the administrator, and the corresponding exchange fee is charged. Meantime, the stable coin reserves could be supplied into Lendf.me to earn interest.

➤ Glossary

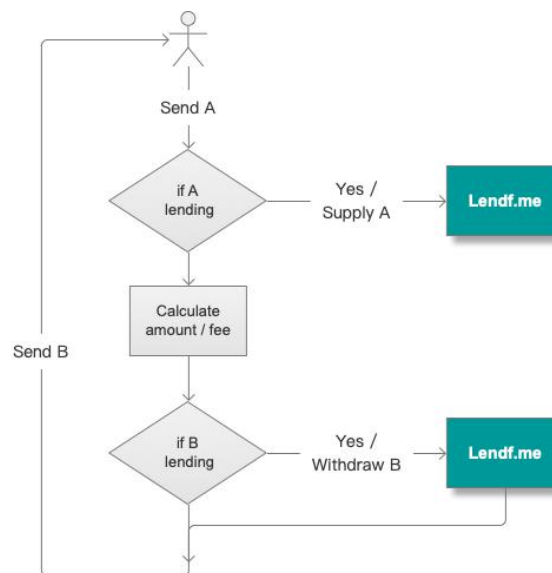
- stable-coin: token backed by the dollar, such as USDx / USDT / USDC, etc.
exchange: trading pair in xSwap, support preset exchanging rate and fee.
lendf.me: money market support stable coin lending and borrowing.

➤ Swap:

The user deposits one of the stable-coins into the contract and choose another one that wants to receive, the contract calculates and deducts the corresponding fees based on the exchange rate. The two tokens participating in the exchange are divided into four cases according to whether they are lending in Lendf.me, A/B is one of the stable-coins:

- A is lending, B is lending: amount x of A is deposited into the contract , *the contract supply amount x of A into lendf.me , the contract withdraw amount y of B from lendf.me to itself and send amount y of B to the user.*
- A is lending, B is not: x of A is deposited into the contract , *the contract supply amount x of A into lendf.me , the contract send amount y of B to the user.*
- A is not, B is lending: x of A is deposited into the contract , *the contract withdraw amount y of B from lendf.me to itself and send amount y of B to the user.*
- A is not, B is not: x of A is deposited into the contract , *the contract send amount y of B to the user.*

(Note, amount y is calculated by x based on exchange rate and fee).



flow chart

➤ Functions

1. For users,

- stable-coin swap

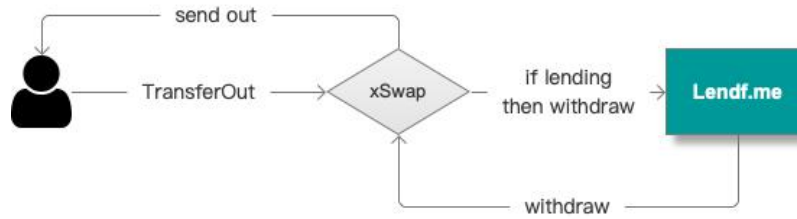
- i. User must enable selling token once at first.
- ii. User sends amount x of token A into contract by calling function 'trade' then choose token B as for receiving.
- iii. User gets amount y of token B, amount y is calculated by amount x based on exchange rate and fee.

2. For admin,

- a) Create exchange
 - i. Exchange is trading pair with two stable-coins.
 - ii. Set up exchange rate between A and B, exchange rate is employed with 18 digits of precision, for example, 1,001,000,000,000,000 means 1 A is exchanging for 1.001 B.
 - iii. Set up fee with 18 digits of precision, for example, 1,000,000,000,000,000 means the exchange fee is 0.1%.
- b) Set fee
 - i. Change fee of exchange.
- c) Set rate
 - i. Change exchange rate of trading pair.
- d) Enable/ disable lending
 - i. enable or disable stable-coin for lending.
 - ii. when enabling, supply all the balance of stable-coin into lendf.me.
 - iii. when disabling, withdraw all the balance of stable-coin from lendf.me.
- e) Stop/ start
 - i. stop or start trading functionality.
- f) TransferIn
 - i. deposit stable-coins as liquidity reserve.
 - ii. If the stable-coin deposited supporting lending, then supply all the balance in contract to lendf.me.



- g) TransferOut
 - i. if the stable-coin supports lending, then withdraw the amount within supplying balance from lendf.me at first.
 - ii. send required amount of stable-coin to user.
 - iii. support withdraw all the balance.



❖ Prototype

1. User Page

balance: 12333.456

USDx

2000

2000

USDT

1 USDx = 1.001 USDT

exchange fee: 0.1%

Send : 1000 USDx,
 exchange rate: 1000 USDx = 1001 USDT,
 exchange fee: 1.001 USDT,
 will receive: 999.999 USDT.

SWAP/ENABLE

[Connect Wallet](#)

Metamask

CoinBase Wallet

2. Admin Page



Connect Wallet

Balance

Assets	USDx	USDT	USDC	PAX
Balance	12,678.98	76,543.77	55438.00	55438.00
Lending	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Exchanges

Exchange	fRate	bRate	Fee			
USDx/USDT	1.001	0.999	0.1%	SetRate	SetFee	Close
USDT/USDC	0.998	1.002	0.2%	SetRate	SetFee	Close
USDx/USDC	1.000	1.000	0%	SetRate	SetFee	Close

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Create Exchange

fToken	bToken	fRate	bRate	Fee	
USDx	USDT	1.001	0.999	0.001	ADD EXCHANGE

Transfer

USDx

wallet:790
123.4567

TRANSFER IN

USDx

123.4567 MAX

TRANSFER OUT

Emergency

Start/Stop xSwap