AQUARIUS LOAN
The official CORE’s Cryptocurrencies Money Markets Platform
Abstract and Aims:

The following paper presents Aquarius, a decentralised exchange and automated market maker, lending and borrowing platform. The paper will cover the relevant contract characteristics and protocols that usher a robust decentralised finance based lending system onto CORE DAO chain.

Through Aquarius users have the opportunity to deploy their cryptocurrencies in supplying the token $ARS to the network and in turn earn passive income, meaning both collateral and liquidity are supplied.

The utilization of $ARS tokens mean that the community will be opened up to a broad range of opportunities such that:

1- Through the construction of a stable and secure lending platform, lenders will be offered the chance to receive a compound interest rate which is paid per block. The fee paid by the borrower on the interest of cryptocurrency borrowed will supplement this.

2- The notion of decentralization is taken seriously, meaning the governance of specific protocol features will aim to give rise to community ownership. In community and versatility there is opportunity and innovation, Aquarius will underline this.

Aquarius is very much focused on the notion of community, understanding it as the clear pathway to success and innovation. With that, the community does of course enjoy a direct and participatory role in the sense that votes cast by them directly impact governance decisions.
Regarding Aquarius

A range of cryptocurrencies and stablecoins will be available to borrow alongside collateralized lending through the CORE DAO chain. Users who supply and borrow cryptocurrencies/stablecoins will be able to earn impressive APY as a reward for the liquidity provided to the protocol.

Early liquidity providers will even enjoy specially high APY with the $ARS, in accordance with the structure set out in the following pages.

Users will also have the opportunity to borrow straightforward stablecoins from the supplied collateral.

Smart contracts will dictate and control liquidity, meaning stakeholders will only have control over their own funds.

Industry approved security audits are also scheduled as soon as possible, so as to ensure investors with stability and security.

The native token will act as a means for the community to contribute toward decisions made for the future development of Aquarius.

1,000,000,000 is the total limited supply that will be gradually released alongside Aquarius’s anticipated growth. An initial distribution of 30,000,000 Aquarius Governance tokens will be kept aside for the launch, which will suffice for the early stage of Aquarius’s development.
Aquarius’s Model & Issues to Address

Issues Aquarius is looking to address…

- Blockchain in decentralized finance has effectively been over saturated, meaning that while there is an abundance of diversity, users are often unclear in regards to navigating these new possibilities - mass adoption requires user conscious DeFi

- Bridging the gap between traditional financial lending systems and DeFi has its own issues. In traditional systems borrowers are required to provide specific financial details and even credit before being considered, Aquarius aims to remedy this in DeFi through allowing the pledging of digital assets and cryptocurrencies which can be used as collateral while indeed earning interest - The process is therefore incentivized

Aquarius’s Dynamic Model

DeFi’s admirable efforts in constructing a borderless financial system have come a long way in addressing problematic aspects of traditional financial systems. Aquarius aims to provide the next step in this journey through modifying the existing DeFi model.

There is a thorough understanding at Aquarius of the importance of supporting liquidity that is provided by prospective users. Even more so, there is an impetus on attracting prospective users through unshackling them from aspects of centralization. Users will be allowed to borrow funding without the stringent consequences of a centralized
Aquarius Tokenomics

$ARS (Aquarius’s Governance Token)

Any smart investor will look over a project’s tokenomics before deciding to entrust them with their funds, which is why below we have set forth a comprehensive explanation.

$ARS token rewards are targeted to last for around 8-10 years. The use of the $ARS token will see rewards generated for both lenders and borrowers using the Lending Protocol; there will also be rewards for liquidity providers who supply liquidity to the platform.
Aquarius Supply & Distribution Overview

Governance supply

30,000,000 $ARS from the Governance Pool will be released as governance progresses and constructs its proposal. 10,000,000 will be for proposal and the team will be using 30,000,000 to cast relevant votes for transparent decisions taken. As adequate progress is made and there are enough tokens in circulation, the team will then cease casting votes for proposals and the protocol will be under control of the wider community. The 30,000,000 tokens will then be redirected to the mining reward pool.

Lending Borrow Distribution Rewards

Only lending borrowers can receive distribution Rewards $ARS and every market will have different distribution APY based on assets total marketcap and 24 hours trading volume.

Token Contract:

- Chain: Core Chain Mainnet
- Name: Aquarius Loan
- Symbol: ARS
- Chain ID: 1116
- Decimal: 18
- Total Supply: 1,000,000,000
- Token type: ERC-20
Distribution Overview:

Governance Mining: 400,000,000 $ARS (8-10 years vesting)
Governance supply: 30,000,000 $ARS (Release on day 1)
Farm Mining: 170,000,000 $ARS (8-10 years vesting)
Reserve: 150,000,000 $ARS (Release on day 1)
Team Allocation: 200,000,000 $ARS (2 years vesting)
Core DAO Allocation: 30,000,000 $ARS (Release on day 1 Locked for 12 months)
Liquidity: 20,000,000 SARS (Release on day 1)

Initial Public Price: 0.005

Total supply: 1,000,000,000 $ARS

Fully Diluted Valuation: $5,000,000 USD
The pegged tokens constructed by the protocol upon the supply of collateral are referred to as aTokens. aTokens are only used and created upon the designation of the community through votes cast during the Governance processes by Aquarius token holders. It is important to remember that aTokens act as a representation of collateral supplied and can alternatively be used as a redemptive tool.
Cryptocurrencies supplied by users on Aquarius will be used as collateral for loans, supply liquidity, as well as be employed to generate APY. Users will effectively be given a chance to act as lenders on Aquarius while preserving collateral in the protocol. The interest users will be entitled to will be based on the yield curve utilisation of the relevant market. The pooling of assets supplied by users into smart contracts ensures that they will be able to withdraw their money at will, on the condition the protocol balance is positive.
The underlying collateral can be reclaimed by users that have supplied digital assets through aTokens they will receive, like aBTC and aCORE. These tokens are then free for users to do what they wish, they can store them in cold wallets that support CORE DAO Chain or alternatively use them to hedge against different assets.

How Borrowing Functions on Aquarius

An initial amount of aTokens or even collateral that is locked on the protocol will need to be pledged by users before they can have access to and borrow cryptocurrencies on Aquarius. After the initial pledge and locking of assets, Aquarius will allow users to borrow up to 80% of the collateral value.

Upon the supply of the relevant collateral asset, Aquarius allows users to borrow a collateral ratio range based on what the asset stipulates. What is meant by this is that if a user supplies $10,000 in CORE, they will then have the chance to borrow up to 80% of the value of the asset from Aquarius. Where users will need to exercise caution is that if their collateral value drops below their collateral ratio percentage on their asset, a liquidation will take place. The best way to keep on top of this will be to keep an eye on any market dips while borrowing, as this could impact the asset ratio value.
A compound interest rate will also be applied per block on the borrowed asset, with no regular payment obligations. For the return of assets to be made possible for Aquarius users, the borrower will be entitled to settle their original balance, including the complete compounded interest back to the platform.

**Market Flux**

Every time a transaction takes place, the Interest Rate Index related to the appropriate asset is calibrated to compound the interest according to the prior index, using the interest for the period, denominated by $r \times t$, calculated using a per-block interest rate:

\[
Index_{a,n} = Index_{a,(n-1)} \times (1 + r \times t)
\]

The market’s total borrowing outstanding is updated to reflect the interest accrued from the last index:

\[
totalBorrowBalance_{a,n} = totalBorrowBalance_{a,(n-1)} \times (1 + r \times t)
\]

And a segment of the accrued interest is laid aside for reserves, determined by a reserveFactor, ranging from 0 to 1:

\[
reserve_{a} = reserve_{a,(n-1)} + totalBorrowBalance_{a,(n-1)} \times (r \times t \times reserveFactor)
\]
Aquarius Architecture

Token Accessibility:

Aquarius will enable users to open an account via Core Supported Wallets such as MetaMask, Wallet Connect wallets and more. This will enable a broad range of users to join who are already knowledgeable regarding wallet functions. As mass growth ensues this will enable the application to join hugely popular exchanges and gain our own listings.

User Caution Regarding Liquidations

Users will be tasked with keeping a close eye on collateral assets, so that they do not fall victim to liquidations that can ensue from volatile market movement. The aforementioned liquidations are accompanied by a fee to satisfy the outstanding debt. Whatever remains on the balance will be rightfully returned to the relevant user.

Token Reserves:

A reserve factor of 10% has been underlined for stable collateral while non-stable collateral will see a reserve factor of 20%. The reserve factors are intended to be taken from the spreads of the lending platform and the idea is to utilize them for development, security and stability. The Governance process that the entirety of the community shall be a part of will be in control of the aforementioned reserve factors and may decide to use them for things such as rewards. 20% of protocol generated reserves will go to the team for operation and development.

How Interest Rates Function:

Interest rates designated according to markets from both supply and borrowing on the platform will be adopted by Aquarius. A yield curve, which varies based on asset liquidity will help determine interest rates for relevant markets.
Liquidity Incentive Structure:

While liquidity cannot be guaranteed, its incentivization will certainly be engineered through interest rates by Aquarius. Protocol liquidity will decline in accordance with spells of intense interest in an asset. As this takes place, interest rates will begin to soar and in turn encourage supply.

Price Feeds

A designated price oracle keeps on top of the current exchange rate regarding relevant assets; where applicable Aquarius affords the responsibility of setting asset value to a committee that pools prices from Band Protocol. Transparency and fairness regarding asset value is optimum for Aquarius, especially since they determine borrowing capacity and collateral necessities, which in turn determine the value of an account.

Aquarius’s Governance Process

Participation is encouraged and indeed a key aspect of Aquarius’s governance process. aToken holders have the opportunity to take part in the poll section which allows them to decide on what they wish to vote on. Proposal thresholds are currently set at 10,000,000 $ARS and Quorum votes at 20,000,000 $ARS respectively.

Below are the relevant opportunities offered to prospective users:

- Opportunity to list a new aToken market
- Opportunity to alter interest rate models per market
- Opportunity to alter oracle address
- Opportunity to withdraw the reserve of an aToken
- Opportunity to add LP farms with $ARS reward
- Opportunity to add staking pool with $ARS reward
Aquarius Build:

Aquarius V1 will utilize CORE DAO as a result of three benefits:

- Quickest network to date
- Industry standard security
- Exceptionally low fees
The initial phase will see the production of the ‘Whitepaper’ and the ‘Landing Page’

1. Auction Contract launch on CORE DAO Chain testnet
   Aquarius Lending Launch on CORE DAO Chain testnet
   Security Audit for Lending contract

2. Deploy Aquarius Loan contract on CORE’s Mainnet
   Launching Aquarius on IDO
   Launch Aquarius Farms on Mainnet
   Listing $ARS in CORE main swap
   Launch $ARS governance

3. Listing $ARS on Coin market cap
   Listing $ARS on CoinGecko
   Aquarius marketing on various crypto media outlets
   Aquarius marketing on Yahoo, Bloomberg, CoinTelegraph and CoinDesk

4. Launch Aquarius AMM & Liquidator bot in mainnet
   Launch Aquarius Fee Share Vault
   Aquarius marketing on various crypto media outlets
   Aquarius marketing on Yahoo, Bloomberg, CoinTelegraph and CoinDesk

5. Launch Aquarius bug bounty

6. Listing $ARS on popular centralised exchanges
Reference

2- Bitfinex Margin Funding Guide. https://support.bitfinex.com/
3- ETHLend White Paper. https://github.com/ETHLend
4- Ripio White Paper. https://ripiocredit.network/
7- Fred Ehrsam: The Decentralized Business Model. https://blog.coinbase.com/
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