Agile Finance

Lending & Decentralized Swap Finance

V1.1

October 10th, 2021

Introduction

Abstract and mission:

This technical whitepaper explains the decisions behind Agile Finance, it covers the contract features and protocols which brings a complete decentralized-finance based lending system onto the Cronos Chain (CC).

Agile Finance is Money Markets which is a one stop shop DeFi platform for lenders and borrowers, that also features AMM and NFT Marketplace. By utilizing AGL tokens, this enables the community to

(1) Create a secure lending platform where lenders receive a compounded interest rate paid per block while borrower pays interest on the cryptocurrency borrowed

(2) Supplying liquidity contributing to the continuation and sustainability of the ecosystem

(3) Governance of select protocol features supporting flexibility and community ownership

(4) Enable purchase and bid of NFT collectibles

Unlike traditional finance systems, Agile Finance is enabled by an integrated DEX so that the community can swap tokens through a community-centric Defi platform. The community enhances the platform by detaining its governance through votes.

Problems:

The blockchain in decentralized finance has created massive diversity in the crypto financial space. This can be extremely daunting for new users. For the model to be massively adopted the Defi space needs to be new-user friendly and secure across the network. In traditional financial lending systems, a borrower needs to provide credit or traceable income to a lender

before consideration on lending funds. Agile Finance aims to solve this friction in the traditional lending system by utilizing digital assets and cryptocurrencies to be pledged and used as collateral while earning interest.

Solution and Model:

Defi is essentially a borderless financial system, tackling inefficiencies in the global finance system. In order to secure the network Agile Finance has adapted the Defi model, supporting liquidity provided by users. Wherein the more users, the more liquidity providers, the more stable and secure the native token will be. When a user adds liquidity to a pool they become a liquidity provider (LP), the token can then be utilized for either lending/borrowing within the blockchain or compounding itself to earn higher interests. Due to the nature of this borderless system this is an enhancement of finance globally, allowing anyone to borrow funding unlike the traditional system where currently many countries and peoples are prevented from participation. Additionally, Agile Finance users would not have to worry about centralized institutions manipulating the user funds.

Agile finance is not the first decentralized financial platform that is attempting to bridge the traditional lending platform with blockchains. Agile Finance benefits from lessons learned through these earlier projects providing a greatly improved platform. Agile Finance will be the first to provide a DEX swap allowing users to create LP and liquidity itself to mint high apy returns and increase AGL price/volume while allowing users to borrow and supply assets through smart contracts.

V1 of the project will focus on Cronos Chain network ensuring low fee and high security, V2 of the project will bridge into other networks such as Ethereum allowing cross chain lending through aTokens.

Agile Finance

Agile Token(AGL) Tokenomics

AGL (Agile Finance Governance Token)

Agile Finance will be governed by the aToken (AGL), AGL will be mintable up to a maximum of 700,000,000 tokens throughout the growth of the lending platform and for providing the liquidity to the DEX Swap.

Both the Lenders and Borrowers will be rewarded with the AGL tokens for using Lending Protocol and to Liquidity providers for supplying liquidity to DEX Swap. AGL token distribution reward will last for six year.

Agile Finance will also lock 50,000,000 AGL each in a token contract on Cronos Chain to reward holders of AGL tokens in personal wallets for more than 60 days based on epochs.

The release of the token will be auctioned through Agile Auction and DEX swap with additional initial distribution supply to project development. Early investors who utilize the system lock up in this early stage will be rewarded with aTokens heavily through the bonus system. The token can also be used to vote within the governance system by Agile Finance token holders.

Agile NFT marketplace will use AGL/CRO as NFT currency to purchase and bid NFT collectibles.

AGL will also be an auction currency to create an auction pool and pay auction fees.

AGL Holding Automatic Rewards

AGL holding rewards system is designed to provide rewards to AGL holders automatically in the AGL contract itself. Agile Finance designed AGL token contract for AGL long term holders to be provided eligible rewards based on holding amount.

If AGL holders will hold AGL for more than 60 epochs, the users will be in the eligible list automatically and the user's reward will increase APR 0.3% every epoch from 30 epochs. Commonly every epoch will be defined as 1 day.

Reward amount will be calculated by an increased APR multiply holding amount.

Reward_Amount = Holding amount * Eligible_Epochs * 0.3 %

For example, if the holders have been holding 1,000,000 AGL for 1 year,

Reward_APR = 365 * 0.3% = 109.5%
Reward_Amount = 1,000,000 AGL * 109.5% = 1,09,500 AGL

There is an exceptional case to be delisted in the eligible list when users transfer AGL to any other address. The transfer of AGL to the other address will delist the holders in the eligible list and dismiss his original rewards immediately.

CC Holding Rewards Factors:
- Epoch Per Block: 14,400 blocks (1 day)
- Rate of Interest Per Epoch: 0.3%
- Eligible Epochs: 60 epochs
- Minimum Holding threshold: None
- Delist Requirement: transfer AGL to any address
- Reward Initial Pools Amount: 50,000,000 AGL

Team and Development Treasury

Development & Community allocation of 140,000,000 AGL will be locked in Team and Development Treasury and 10,000,000 AGL will be released every month for operation, marketing and further development of Agile Protocol.

Token Contract:

Chain: Cronos Chain

Name: Agile

Symbol: AGL

Decimal: 18

Total Supply: 1,000,000,000

Token type: ERC20

Distribution overview:

Presale: 100,000,000 AGL (Vesting Period 9 months)

Public Sale: 10,000,000 AGL

Pool Mining: 300,000,000 AGL

Governance Mining: 400,000,000 AGL

CC Holding Reward Pool: 50,000,000 AGL

Team and Development treasury: 140,000,000 AGL

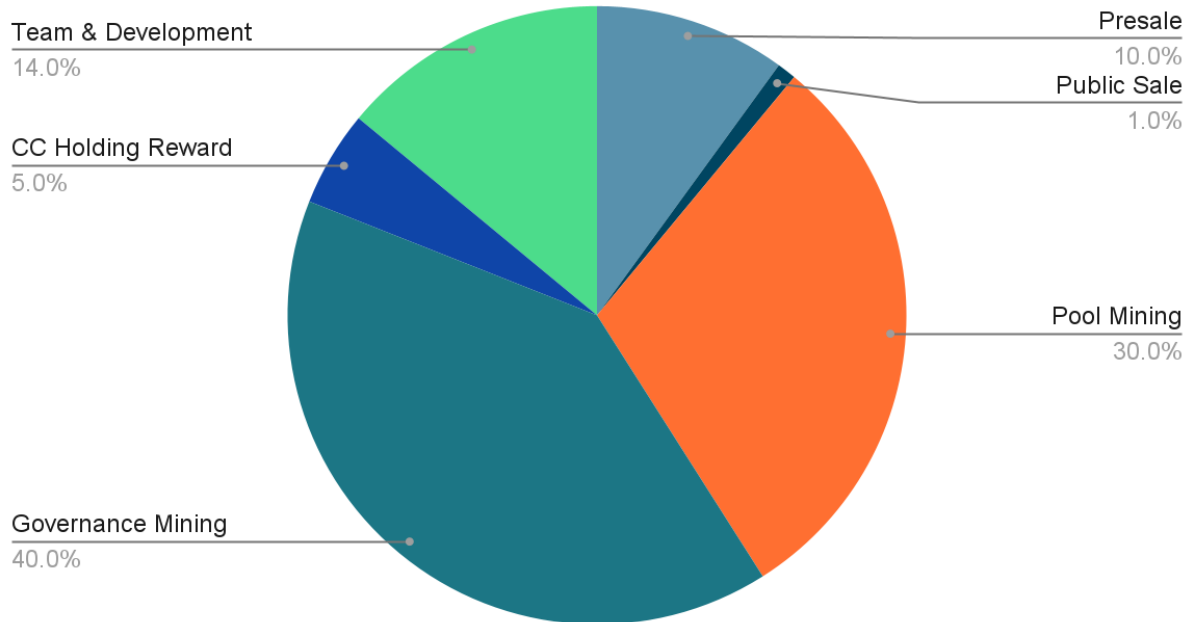Total supply: 1,000,000,000 AGL

Initial Market Cap: $2,500,000

Total Diluted Market Cap: $50,000,000

Presale Price: 1 AGL = $0.03 USD

Starting public sale price: 1 AGL = $0.05 USD

Exchange Listing Price: $0.5 USD

Points scored

Team & Development
14.0%

CC Holding Reward
5.0%

Governance Mining
40.0%

Presale
10.0%

Public Sale
1.0%

Pool Mining
30.0%

Presale only releases 10% of total purchase after presale will be completed.

Investors can claim presale tokens every 3 months with 30% of total purchase for 9 months.

Agile Lending

aTokens

The protocol-created pegged assets when collateral is supplied are called aTokens. aTokens represent the unit of the collateral supplied and can be used as a redemption tool. aTokens are created and implemented by Governance processes and voted by Agile Token holders.

Contract ABI	Description
mint(uint256 amountUnderlying)	Transfers an underlying asset into the market, updates msg.sender's aToken balance.
redeem(uint256 amount) redeemUnderlying(uint256 amountUnderlying)	Transfers an underlying asset out of the market, updates msg.sender's aToken balance.
borrow(uint amount)	Checks msg.sender collateral value, and if sufficient, transfers the underlying asset out of the market to msg.sender, and updates msg.sender's borrow balance.
repayBorrow(uint amount) repayBorrowBehalf(address account, uint amount)	Transfers the underlying asset into the market, updates the borrower's borrow balance.
liquidate(address borrower, address collateralAsset, uint closeAmount)	Transfers the underlying asset into the market, updates the borrower's borrow balance, then transfers aToken collateral from the borrower to msg.sender

Supplying Assets

Agile Finance users may supply various supported cryptocurrencies or digital assets onto the platform, which can be used as collateral for loans, supply liquidity and earn an APY. Supplying assets such as cryptocurrencies or digital assets to Agile Finance gives the users the ability to participate as a lender while maintaining the security of collateral in the protocol. Users will earn a variable-based interest rate depending on the yield curve utilization of that specific market. All user assets are pooled into smart contracts so that users can withdraw their supply at any time,

given that the protocol balance is positive. Users who supply their cryptocurrency or digital asset to Agile Finance will receive a aToken, such as aBTC and aCRO, which is the only token that can be used to redeem the underlying collateral supplied. This will enable users to use these tokens to hedge against other assets or move them into cold storage wallets that support Cronos Chain.

Borrowing Assets

Users who want to borrow any of the platform supported cryptocurrencies from Agile Finance will be required to pledge aTokens or collateral that are locked on the protocol. The locked up assets will enable users to borrow up to 60% of the collateral value.

Once a user supplies their collateral asset, the user will be able to borrow a collateral ratio range of the asset depending on the assets. For example, if a user supplied $1000 worth of CRO, the user will be able to borrow up to 60% of the value of your asset from the lending platform. However, if a user's collateral value drops below their collateral ratio percentage of their asset, a liquidation event will occur. Users need to be aware of their asset ratio value to avoid liquidation in the case that their locked up collateral asset took a dip while borrowing.

Users of the Agile Finance platform will have a compound interest rate that will be applied per block on the borrowed asset while holding no monthly payment obligations. In order to return the asset, the borrower must pay off their original balance plus the total compounded interest back to the platform.

Market Dynamics

Each time a transaction occurs, the Interest Rate Index for the asset is updated to compound the interest since the prior index, using the interest for the period, denominated by r * t, calculated using a per-block interest rate:

$$Index_{a,n} = Index_{a,(n-1)} * (1 + r * t)$$

The market's total borrowing outstanding is updated to include interest accrued since the last index:

$$totalBorrowBalance_{a,n} = totalBorrowBalance_{a,(n-1)} * (1 + r * t)$$

And a portion of the accrued interest is retained (set aside) as reserves, determined by a **reserveFactor** , ranging from 0 to 1:

$$reserve_a = reserve_{a,(n-1)} + totalBorrowBalance_{a,(n-1)} * (r * t * reserveFactor)$$

NFT Marketplace

Agile NFT marketplace offers a wide range of non-fungible tokens, including art, censorship-resistant domain names, virtual worlds, trading cards, sports, and collectibles. It includes ERC721 and ERC1155 assets. Users can buy, sell, and discover exclusive digital assets like Cronos NFT, ENS names, Fungible, and more.

NFT Currency AGL

AGL is the main NFT currency in the Agile NFT marketplace for creators and buyers to purchase items. Creators can set fixed prices with AGL units and buyers can make offers or place bids with AGL.

How to use

Creators can create their own items on the blockchain using the Agile NFT item minting tool. Users can use it to make a collection and NFTs for free, without the need for a single line of code. If users are developing their own smart contract for a game, digital collectible, or some other project with unique digital items on the blockchain, users can easily get added to the Agile NFT marketplace.

System Architecture

The platform's DEX will utilize a codebase fork from pancakeswap for token farming. When users use the lending platform, they are using an underlying asset to first bond with aTokens.These assets held as collateral will have dollar values that are tied to the native tokens. Due to the nature of crypto currency. The collateral values are pulled from market rates in real time through the use of Band protocol for market pricing update to assure fair market value.

Token access:

Users will be able to open an account with Agile Finance using Metamask, Trust wallet, and Wallet Connect wallets. Our goal is to grow the platform as quickly as possible so that we can apply for crypto exchange listings such as crypto.com as soon as the platform meets all the exchange's requirements.

Liquidations:

It is entirely up to the user to monitor their collateral assets, the collateral could be liquidated if it falls below the threshold rate required for the borrowing. These liquidations are subject to liquidation fee and satisfy the outstanding debt. The remaining collateral, if any, will then be returned to the user if available.

Token Reserve:

Depending on the collateral asset with aToken. Stable collateral will have a reserve factor of 10% while non-stable collateral will have a reserve factor of 20%. These reserve factors will be captured from the spreads of the lending platform and can be used for project development, protections, etc. These Reserve Factor funds are controlled by the Governance process and can be used in a variety of ways such as rewards mechanisms.

Interest rates:

The platform will utilize interest rates that are designated per market from both supply and borrowing side of the protocol. The interest rate provided for the markets will be determined by a yield curve that varies based on assets liquidity.

Liquidity Incentive Structure:

The protocol does not guarantee liquidity; instead, it relies on the interest rate model to incentivize it. In periods of extreme demand for an asset, the liquidity of the protocol (the tokens

available to withdraw or borrow) will decline; when this occurs, interest rates rise, incentivizing supply, and disincentivizing borrowing.

Price Feeds

A Price Oracle maintains the current exchange rate of each supported asset; the Agile Finance delegates the ability to set the value of assets to a committee which pools prices from Band Protocol. These exchange rates are used to determine borrowing capacity and collateral requirements, and for all functions which require calculating the value equivalent of an account

Governance:

All aToken can be used to participate in the Agile Finance Governance and Proposals system. The users can participate in the poll section and cast their votes on different proposals. The proposal threshold will be 10 Million AGL and Quorum votes at 20 Million AGL.

- The ability to list a new aToken market
- The ability to update the interest rate model per market
- The ability to update the oracle address
- The ability to withdraw the reserve of a aToken
- The ability to add LP farms with AGL reward
- The ability to add staking pool with AGL reward

Agile Finance build:

Agile Finance V1 will utilize Cronos Chain due to three main advantages:

- Fast transaction block time
- Secure transfer
- Lower fees compared to others

Cronos Chain has a record of trustworthy entities where users can report malicious projects, freezing project's assets so that the user's funds will always be safe. V2 of the development will utilize networks such as Ethereum and Polygon.

Roadmap

No	Title	Timeline
1	- Whitepaper and Landing Page launch	Phase 1
2	- Agile Finance Marketing Campaign - Agile Finance Presale Open - Public Sale Launch	Phase 2
3	- Agile Finance Testnet Lending app launch - Deploy Swap Contract in CC mainnet	Phase 3
4	- Listing AGL in coinmarketcap - Launch Agile Lending in Mainnet - Launch Agile Swap in Mainnet - AGL/CRO or AGL/USDT farm launch - Listing AGL in coingecko - Agile marketing with Dedicated Marketing Firm - Agile marketing in cointelegraph and coindesk - Launch AGL governance - Launch Agile NFT marketplace in testnet	Phase 4
5	- Launch Agile AMM & Liquidator bot in mainnet - Launch Agile NFT marketplace	Phase 5
6	- Launch Agile bug bounty - Burning part of tokens - Growing global marketing campaigns - Listing on medium-sized exchanges - Growing Agile Finance team	Phase 6
7	- Burning part of tokens - Business development - Listing on top tier exchanges - Launching Agile Finance mobile applications - Creation of Agile Chain development	Future Plan

References

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