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# White Paper

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**Fortaleza Digital Limited**

[legal@fortalezadigital.io](mailto:legal@fortalezadigital.io)  
[www.fortalezadigital.io](http://www.fortalezadigital.io)

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## **Abstract**

*The Fortaleza Digital White Paper herein provides a description of the FORTE and DURO smart contracts.*

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# FORTALEZA

## **Introduction**

Since the invention of Bitcoin and its underlying Blockchain technology by Satoshi Nakamoto in 2008, many new crypto innovations have revolutionized the world of finance. Blockchain technology can be best summarized as a digital ledger that is decentralized, transparent, trustless, permissionless and immutable. Blockchain removes the need for intermediaries, increases efficiency in both speed and scale, lowers transaction costs and is extremely secure. This has led to groundbreaking developments both within the landscape of Blockchain and that of financial services, as seen by the proliferation of Decentralized Exchanges (DEX) and Decentralized Finance (DeFi) protocols as well as Centralized Exchanges (CEX), various tokenization protocols such as ERC20 and ERC721 or ERC1155 also known as Non Fungible Tokens or NFTs.

Today, according to coinmarketcap.com, there are over 20,374 quoted coins on 500+ reporting exchanges representing a total market capitalization of \$1 trillion USD (as at July 27, 2022) and over \$60 billion USD in daily trading volumes.

### Company Mission

The Strength of Community through the Empowerment of Individuality.

### **The Forte Coin**

An attempt to solve the problems faced by previous cryptocurrencies will be made through the Forte Protocol, such as mining rewards, farming rewards, and liquidity provisioning. The cost of mining equipment can also be adverse to the environment, but mining remains of interest due to its advantages. As an easy alternative to mining rewards, we propose the ability for users to participate in a smart contract token reflection to produce tokens within their own wallet. Decentralized exchanges must also provide liquidity so that liquidity can be maintained. In decentralized exchanges, liquidity is necessary for user participation, so developers must provide the liquidity. The concept of incentives created by developers has historically been designed in order to provide liquidity that can be overweight by risk due to limited liquidity. A smart contract function can be employed to automatically capture liquidity that can be used on exchanges over the decentralized system and held in custody independently of user possession. Additionally, smart contracts that allow tokens to burn can promote scarcity by reducing the supply. Combining these tokenomics may be of far superior benefit to the community within the decentralized venue. Having these functions amplified and dependent on volume provides an ideal incentive for adoption and fosters new use cases.

### Functions

Decentralized financial transactions are possible through decentralized exchanges in collaboration with liquidity pools. For a token on a smart chain to be swapped on centralized exchanges, it must have an available liquidity pool in which the tokens can swap. The challenge remains to incentivize users to maintain liquidity pools.

As a result, developers have attempted to comply with these conditions by using various tokenomic structures that allow users to supply liquidity into the pools. Compared with traditional "farming reward" structures, automatic liquidity acquisitions can also be attractive. In this automatic liquidity acquisition function, users are offered rewards (via reflection) instead of traditional farming rewards.

Because of this, tokens would be distributed proportionally to volume and could therefore provide an incentive for holding. Reflection and automatic liquidity acquisition may contribute to stability, but there is an inherent vulnerability that can result from token scarcity due to token depreciating. Through these tokenomics, a variety of advantages are realized, while providing useful incentives for adoption and use cases. For instance, any application that is added with these smart contract functions may amplify Forte's tokenomics.

In addition to the Tokenomics, Fortaleza Digital and subsidiaries pledge that 100% of its profits will be used to acquire Forte Coins and all acquired Forte Coins will be burnt and removed from supply, therefore further adding to the Forte tokenomics.

#### Four Functions

1. Reflection 4%
2. Liquidity 3%
3. Burnt 2%
4. Foundation Growth Fund 1%

#### Liquidity

We consider that liquidity is required to operate any trading environment. Essentially, decentralized liquidity is simply the provision of tokens operated and managed by a smart contract -- hosted by decentralized exchanges. Market makers traditionally provide a service for buyers and sellers on traditional order book exchanges to improve user experience. These market maker services were designed to fill cheap and reliable buy and sell orders as well as reduce market volatility as a result of large orders. The traditional order books have long been outdated, and have been replaced by liquidity pools in a decentralized model. Market makers are compensated for providing services in the order book environment, and incentives to add liquidity are important factors in any decentralized environment. Issues arise during arbitrage when a liquidity pool provider loses incentive to add tokens to the pool, which occurs after arbitrage causes impermanent losses to the token pair.

Liquidity could be viewed as a function of smart contracts using market activity from all swaps and transfers. All swaps and transfers will be transcribed through the smart contract and utilized with the function: "\_swapAndLiquify". To accomplish this, the portion of the fee from swaps and transfers can be kept in a standalone pool within the contract itself and automatically converted to the liquidity pool.

In the event of liquidity being sold, it is then managed by the contract and paired accordingly, thereby preventing users from experiencing any impermanent loss scenarios. The liquidity pool acts to reduce the volatility of the swap impacts against the overall supply. As the token matures, the auto-liquidity can be attributed to an ever-growing market stability capable of absorbing large market activity.



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## Token Reflection

The traditional mining method is both costly and inconvenient to the user. Reflectionless, static rewards accrue when you hold your tokens, and hold-farming is an innovative mechanism to reward holding tokens that stands out from standard pool-farmer rewards. This function is meant to eliminate token dependencies that have caused problems in the past, such as, but not limited to:

- Pooling funds in unverified 3rd party smart contracts
- External website interfaces
- Transaction fees needed to claim rewards

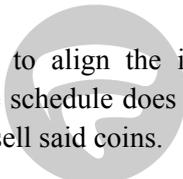
Decentralized finance tokens like pool farming tend to be expensive and require users to manually compound rewards. As a solution, we propose the use of a compounding reward structure that does not require additional fees in smart contract functions, or token reflections. An efficient reflection may be achieved without cost or impact to the user. In light of its static reflection rate of (x)%, market activity will have an adverse effect on the quantity of token reflections, depending on the percentage of tokens held by the user relative to the overall supply. The ability to "\_excludeFromReward" function can be enabled for individual addresses, making account transactions such as exchanges, hot wallets, apps, etc. exempt from token reflection, granting greater rewards to individual holders.

## Supply

There are a total of 1 trillion (1,000,000,000,000) Forte coins minted and outstanding. 100 Billion (10%) are owned by Fortaleza Digital Ltd and are restricted from selling according to release schedule over a 10 year-period. Fortaleza Digital operates both a centralized and decentralized exchange as well as online gaming site, and whereby 100% of profits are used to acquire Forte coins on the open market and all Forte coins acquired by the Company are Burnt.

<u>Year</u>	<u>Percentage Release</u>
2022	0%
2023	1%
2024	2%
2025	3%
2026	4%
2027	5%
2028	10%
2029	15%
2030	20%
2031	20%
2032	20%

The release period is uniquely designed to align the incentive of the Company with the entire Fortaleza Global Community. The release schedule does not equate to the selling of the Forte coins by the Company, only that it is allowed to sell said coins.



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## Depreciating Supply and Burn Address

In a decentralized smart chain environment, contract functions are used to achieve token scarcity. In order to accomplish this, we also propose distributing rewards to the burn address, which are publicly visible to all participants. In real-time, we can track depreciating supply for added transparency. According to our efforts to establish a baseline token burn rate, these values are dependent on three important factors: reflection rate, token quantity, and market volume. Reflection rewards are proportional to the total supply in each wallet address. We must keep in mind that two variables are critical to our calculations: the increasing scarcity of tokens and the amount of tokens absorbed into the burn address. As a result, it is reasonable to expect that these features may stabilize the burn rate in the future.

## **The Duro Coin**

### Vision

It is the goal of Fortaleza to create a decentralized loyalty economy designed for the Financial markets and more specifically the DeFi sector.

### Description

Rewards programs have been around since the late 70s and early 80s providing limited incentives to travelers, shoppers and or members in an attempt to create customer loyalty. Today, the Duro Coin serves the same purpose for the Financial world where rewards in Duro coins are provided to traders, investors and members of our community.

Through the use of a Smart Contract on the Binance Chain, Fortaleza has minted the Duro Coin as an integral part of the Fortaleza Swap Decentralized exchange. Members can Swap Duro against Forte, BSC, BUSD, and Bitachon as well as stake coins for Rewards.

### General Information

Fortaleza Digital Ltd is a UK based Company #13611202 with its registered offices located at Kemp House, 160 City Road, London, EC1V 2NX, and Fortaleza Digital Ltd (#176 414 Belize) is a wholly owned subsidiary of Fortaleza Digital Ltd (UK). The issuer of both the Forte and Duro Coin and Smart Contracts is Fortaleza Digital Ltd (Belize). The Fortaleza Digital Centralized Exchange, Decentralized Exchange, NFT Marketplace are operated by Fortaleza Digital Ltd. (Belize) at 34 Princess Margaret Drive, Belize City, Belize. Residents of the United States of America, United Kingdom, Belize as well as any Resident of US Sanctioned countries are prohibited from accessing Fortaleza Digital services and or from any operations on its Forte and Duro coins and smart contracts.



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