Decentralized.
Innovative.
Efficient.

Whitepaper v2.0

The Shadows Blockchain Protocol

Introducing Shadows, a decentralized trading platform, aimed in bringing financial derivatives to the ever-growing DeFi space.

The current global market in traditional financial derivatives is estimated at more than $1.2 quadrillion with offerings such as futures, options, commodities, and other sophisticated financial instruments.

With our smart contracts, we are building a DeFi derivates asset issuance and trading network on the Binance and Polkadot ecosystem to offer a wider range of financial offerings to the crypto investment community.

- **Built on Binance and Polkadot**
- **DeFi Collateralized Lending**
- **Derivatives Issuance & Trading**

> **Crypto investors can enrich their portfolios by holding synthetic assets such as gold, tesla stock, or oil commodities all while receiving staking rewards from the ecosystem.**

Derivatives on Blockchain

Derivatives are contracts whose value is derived on a financial asset which include instruments like currencies, commodities, stocks, and market indexes. They allow market participants to either mitigate risk (hedge) or assume risk with the expectation of reward (speculation).

We bring smart contracts to the picture which enable the DeFi community to issue and trade these derivatives while having crypto exposure. These products allow our platform users to synthetically hold currencies, stocks, and commodities, all while receiving yield for participating in the market.

With the sudden rise of demand in BTC and other crypto currencies, we also are also witness to institutional interest from traditional investment firms for crypto exposure. We view blockchain derivatives as the natural progression of the DeFi evolution.

Bridging Markets and Bringing Opportunities

Derivatives on-chain brings a whole new suite of opportunities for our platform users to participate in and generate new revenue streams. In the current landscape many crypto investors do not actively participate in traditional financial markets whether due to limitations from restrictions or from an unwillingness to transact through a centralized exchange. Shadows will be the link to bridge that gap.

Through the myriad of offerings on the Shadows platform users now have access to stock market exposure by holding xTSLA or xAAPL, the S&P 500, Forex (Foreign Exchange Market), and even Gold. The opportunity for asset diversification is endless in a single platform.

Volatility in the blockchain industry and cryptocurrency has kept many investors on the sideline. However through derivatives, full hedging strategies can now be achieved on-chain to mitigate the volatility risk and protect investors on the downside without using stop-losses.

Shadows DApp

Shadows is a decentralized DApp built on the web that allows market participants to issue synthetized products by providing collateral. Users can then enter into the smart contracts to long or short the underlying assets without actually holding the real asset. Synthetic assets on the Shadows Network system are underwritten by the native token DOWS, and can be issued by locking the DOWS collateral into a smart contract.

> **DOWS is the value connection pipeline for real world assets to be mapped onto the chain.**

The Wall Street Coin

DOWS is the value connection pipeline for real world assets to be mapped onto the chain.

To access the Shadows network, users can first stake DOWS and mint the stablecoin xUSD. These newly minted assets are backed by a minimum 800% collateral ratio which ensures that there is enough liquidity in the Shadow's pool to support price fluctuations. In other words $800 worth of DOWS will net $100 of minted xUSD. These newly minted xUSDs can then be traded for derivative assets like cryptocurrencies (xBTC), fiat currencies (xEUR), stocks (xTSLA), ETFs (xS&P500), and commodities (xGLD).

Unlike traditional exchanges the Shadows network doesn't have counterparties and operates as a burning and minting system. Shadows traders in turn assume debt and will be responsible for a proportion of the entire Shadow's Network debt pool.

Some key concepts to understand on how the network operates:

- A trader's beginning debt balance is equal to the value of their derivative assets (their portfolio) at time of minting.
- This debt balance is measured against the overall Shadows Network debt pool at that point in time to come up with the trader's Debt Increment Ratio (DIR). Put simply the DIR represents the percentage share of debt that the trader is responsible for in the system.
- The trader's DIR will constantly be adjusted as derivative assets within the system are burned and minted and as other trader's enter and leave the system.
- The trader's portfolio balance will increase or decrease with the price action of the derivative assets held by the trader.
- The Shadows Network debt pool balance will increase or decrease along with the price action of all the various minted derivative assets within the Shadows Network.
- A trader's profit or loss is ultimately determined by pitting the value of their portfolio against the trader's debt balance.

> **Traders are effectively trading against the entire Shadows debt pool.**

So put differently, traders are effectively trading against the entire Shadows debt pool; and they not only have price exposure to the assets within their portfolio but of all assets within the Shadows Network as a whole.

A simplified scenario to illustrate how the system works:

- Mike stakes $8,000 worth of DOWS and mints $1,000 of xUSD while Christine also stakes $8,000 worth of DOWS and mints $1,000 of xUSD.
- Mike and Christine both share a 0.5 Debt Increment Ratio of the $2,000 Shadow's pool ie $1,000 each.
- Mike burns his $1,000 xUSD for $1,000 worth of xTSLA while Christine burns her $1,000 of xUSD for $1,000 worth of xGLD.
- If the price of xTSLA rises by 50% while xGLD rises by 25%, Mike's portfolio increases to $1,500 while Christine's portfolio increases to $1,250.

- Shadow's debt pool is now $2,750. Mike and Christine's 0.5 Debt Increment Ratio is unchanged however they are now responsible for $1,375 each or half of the debt pool.
- Assuming the individual debt of $1,375:
    - Mike's portfolio of $1,500 has netted him a +$125 profit.
    - Christine's portfolio of $1,250 has netted her a –$125 loss.

It is important to note that although the price movement of xGLD was a 25% gain, it resulted in a $125 loss for Christine. This is because Christine is trading against the entire debt pool and her portfolio is ultimately measured against the performance of all other derivative assets represented within the system.

For providing liquidity and taking on a share of the risk of the overall debt system, Stakers earn a share of the 0.3% transaction fees incurred on the Shadows network. All the transaction fees are pooled together and redistributed to Shadow Stakers. The amount of DOWS that each Staker receives is in relative proportion to their Debt Increment Ratio. Using the same illustration as above, Mike and Christine would both equally receive half of the transaction fee pool.

Traders looking to exit the Shadows liquidity pool and retrieve their staked DOWS will need to burn their minted assets to close out their debt. The value of the minted assets to be burned must meet the same minimum collateral ratio at time of entry of 800%.

Lending pools will be another feature within the Shadows Network. Users will be able to lend one particular asset such as xUSD and receive interest while a borrower will need to pledge another asset like xTSLA as collateral and pay interest on the borrowed xUSD.