



# Zero-paper

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## Z-DEX | Z-Pay

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### Introduction

The Zero Project was created in February 2017 in order to identify and solve many inherent weaknesses in existing cryptographic currencies.

The goal was to create a currency with transactions that required less power consumption than other currencies that were also processed faster, had less transaction fees, and permitted transactions that were untraceable and anonymous in a mainstream adoption.

Zero uses a decentralized anonymous payment scheme (DAP) that can be integrated with cryptocurrencies using the Bitcoin blockchain structure, and forks thereof.

Zero is presently run by a very strong community, whose aim is to deliver a successful project and product that can be enjoyed and utilized in many applications.

In future, Zero plans to design and implement Z-DEX, a decentralized exchange for primarily the fellow Z-Cash clones / forks that are already (and yet to be) in existence in a unified trading ecosystem. Z-DEX will also offer fiat/ Zero trading pair/s for its further core functions (as detailed below).

A payment gateway system known as Z-Pay is also to be implemented as a basis of payment that enables a unique fiat / Zero direct payment system from the Z-DEX exchange for transactions with merchants that do not directly accept Zero. Z-Pay will also act as standalone payment gateway for real world transactions utilizing the overarching Zero currency at merchants that directly accept the currency.

A further proposed function of Z-Pay is to provide an umbrella payment system that caters for 3rd party currencies to adopt for transactions. These transactions will utilize a direct Zero currency pairing with said 3<sup>rd</sup> party coins for instant and seamless transactions.

Both Z-DEX exchange and Z-Pay payment gateway system could eventually serve as an ecosystem for other currencies that do not yet have the infrastructure to implement payments and trading.

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## Core Features



### **ZERO KNOWLEDGE**

Zero has a hard-coded option to use shielded transactions (Z) making it IMPOSSIBLE for anyone to track.



### **ZERO TIME**

Zero's transaction times are faster than any other major cryptocurrency including but not limited to: Bitcoin, ETH, Zcash. You can send/receive funds literally under 2 minutes.



### **ZERO COST**

Zero's transaction fees are literally close to zero and by far cheaper than any other major cryptocurrency for example its fees are 10.000x times cheaper than Bitcoin.



### **ZERO FOUNDERS FEE**

Zero has NO founder's fee. 95% of crypto has some kind of a founder's fee. This is not the case for Zero making it TRULY decentralized.

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## **ZERO BACKDOORS**

Zero uses state of the art elevated security protocols that surpass even the most famous cryptocurrencies in security.



## **ZERO IS ECO-FRIENDLY**

Mining operations for Zero require 25-30% less power consumption than ETH, ZCASH, XMR, or other equivalent crypto.

## **ASIC RESISTANT**

Zero's total supply is uncapped, with a stable 7200 ZER minted by miners per day. Zero is also ASIC resistant meaning that it can't be mined with big ASIC miners making it unprofitable for big farms with ASIC capacity.

## **BLOCK MATURITY**

The Zero block size is 4MB, with a higher time complexity X16, and higher memory requirements X16. Zero has a 4X faster block verification, and smaller solutions of 400 bytes, instead of a typical 1344 bytes.

# Current Features

## **WINDOWS JAVA SWING WALLET**

### Zero Desktop GUI Wallet

This program provides a Graphical User Interface (GUI) for the Zero client tools that acts as a wrapper and presents the information in a user-friendly manner.

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## WEB WALLET

### MyZeroWallet, A Client-Side Browser Wallet For Zero (ZER)

MyZeroWallet is forked from MyBitcoinZWallet, which derives from MyZENWallet, the original client-side browser wallet for ZenCash. ZenCash is a fork of Zclassic, which is a clone of Zcash.

## MOBILE ANDROID WALLET

### Zero Mobile

Zero mobile app built using Onsen UI, Redux, React and Webpack.

Using node v6.11.X

## Future Core Features

## IOS WALLET

Hardware wallets are the best choice if you need secure storage for your Zero. If you are an investor, a hardware wallet will probably be the easiest way to secure your Zero, using the same code base that is currently used on the Android Platform.

## MINER

Zero is an anonymous cryptocurrency that uses zk-snarks to ensure that all the information regarding user transactions is safely encrypted, while still verifiable by miners that can ensure no double-spending has taken place using zero knowledge proofs.

Zero uses Equihash 192/7 as the hashing algorithm, which is an asymmetric memory-hard PoW algorithm based on the generalized birthday problem. It relies on high RAM requirements to bottleneck the generation of proofs and making ASIC development unfeasible, much like Ethereum. This miner will be specific for Windows / Linux / Mac

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## Z-DEX | Z-Pay

### DEVELOPERS FUND

In order to fully realize goals for Zero, a development fund will be implemented as a revenue stream to allow for the necessary personnel, equipment, and bounties required meeting the requirements of the roadmap.

The exact detail of the developer fund will be made public in due course.

This funding is key to Zero, not only so the project does not need to rely on the community for donations, but to also ensure the steady, organic growth of Zero in a self-supported manner.

### Z-DEX (DECENTRALIZED EXCHANGE)

A decentralized exchange that offers P2P (peer to peer) trading of initially other ZCash forked coins (Z-Clones), using Zero as the mainstay trading currency paired with other said currencies.

On top of embracing an initial Z-Clone eco-system, Z-DEX will also provide a fiat / Zero trading pair, not only to offer another form of payment and value other than Bitcoin, but also to integrate into other future functions of Zero.

A decentralized exchange is an exchange market that does not rely on a third party service to hold the customer's funds. Instead, trades occur directly between users (peer to peer) through an automated process. This system can be achieved by creating proxy tokens (crypto assets that represent a certain fiat or crypto currency) or assets (that can represent shares in a company for example) or through a decentralized multi-signature escrow system, among other solutions that are currently being developed.

This system contrasts with the current centralized model in which users deposit their funds and the exchange issues an IOU that can be freely traded on the platform. When a user asks to withdraw his funds, these are converted back into the cryptocurrency they represent and sent to their owner.

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## Z-DEX | Z-Pay

### **Z-PAY (PAYMENT GATEWAY)**

Z-Pay is intended to be a semi-integrated system and application in conjunction with Z-DEX, where a Z-Pay wallet is used to facilitate payment for both private and everyday transactions (T & Z payments) using Zero as the transactional medium.

The end user will decide which wallet to utilize in terms of private or transparent for their transactions.

The system intended to be implemented in two types of applications:

#### **1. Desktop**

Z-Pay is to be integrated within e-commerce sites and equivalent outlets similar to existing payment gateways, but in this instance, Zero is utilized as the primary payment in the transaction. This requires the outlet to accept Zero as a payment.

In order to utilize Zero as a form of currency where outlets do not support Zero directly, another feature to be instigated is an instantaneous Zero / fiat conversion from the funds in your Z-Pay wallet for everyday transactions.

This instantaneous transaction is verified through the Z-DEX exchange, based on fiat / ZER trading pairs, and is relevant to the exchange rate of ZER to the applicable category of fiat for that specific point in time of the transaction.

#### **2. Mobile – Android / iOS**

Z-Pay is also intended to be used as per the desktop application for payment where outlets accept Zero directly, and also where they do not.

With most crypto currencies, an issue of mainstream adoption is encountered due to outlets specifically requiring acceptance of individual coins, and also not having a credit / debit card facility to encourage transactions.

In order to solve the problem of spending Zero without a debit / credit card, Z-Pay will facilitate transactions using NFC (near field contact) that is already applied in current mobile phone technology (Android & iOS) that do not require a physical credit or debit card.



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## Z-DEX | Z-Pay

The NFC application will be built by Zero, and integrated within outlets that already accept NFC payments to facilitate transactions.

In offering an NFC application for everyday transactions where Zero is not directly accepted by an outlet, Z-Pay will link to Z-DEX to facilitate fiat / ZER conversions in order to settle the transaction instantaneously based on fiat / ZER exchange rates at that point in time.

By offering both a desktop and mobile version of Z-Pay that caters for outlets that accept Zero directly, and also those who do not, Zero becomes much more liquid in a transactional sense, thus enhancing the value of this currency.

In further Z-Pay features, crypto currencies that are also live on Z-DEX will also have the opportunity to utilize Z-Pay as a gateway for their transactions also. This feature needs further integration investigation as of this point in time.

Zero is minable, it is PoW. It is using an alternate set of parameters of equihash algorithm that need at least 8GB of RAM. It is the most profitable crypto for at least the past 2 months.

## Potential 3rd Party Integrations

### LEDGER HARDWARE WALLET

#### Zero Ledger Support

Ledger Nano is a Bitcoin wallet on a smartcard device, small format and low weight. Comfortable and simple to use, you connect it directly to a USB port to manage your account, protect your Bitcoins and make safe payments.

### TREZOR HARDWARE WALLET

#### Zero TREZOR Support

TREZOR is a single purpose device which allows you to make secure Bitcoin transactions. With TREZOR, transactions are completely safe even when initiated on a compromised or vulnerable computer. Because the use of TREZOR is very easy and intuitive we believe it will help Bitcoin adoption among people not familiar with the security issues.

## Community & Z-Estival

### ZERO COMMUNITY

The Zero community is a very strong, loyal, and committed collaboration of dedicated people who only have the interest of Zero's success at heart.

The Zero team was selected to manage the project from within the community after a recent takeover, and have now set a solid path forged on the foundation of the Zero community to continue the project's success.

A healthy social media and marketing campaign is confirmed as an ongoing step on the roadmap, and Zero welcomes every new community member along the journey to a successful product.

### Z-ESTIVAL

Z-Estival is an idea that envisages a gathering, or festival of the Z-Cash clones / fork team members to celebrate the backgrounds of our blockchains and existence together.

This would be a gathering in the interest of learning, networking, and leisure, and would extend to each of the community members of each Z-Cash clone / fork, with an inaugural meeting yet to be established and determined with other entities.

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## Roadmap



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## Team

