



PWR

PWR COIN

White Paper 06/2018

Disclaimer

This guide is used for informational purposes only and should not be taken as financial advice, please always ensure you do your own research.

If you have any additional questions, please reach out to us at either channel: PWR Discord or Telegram (See Links Section).

We, The PWR Dev Team, confirm that the work presented in this whitepaper is our own. Where information has been derived from other sources, we confirm that this has been indicated in the attributions.

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PWR Coin – www.PWR-Coin.com

PWR Coin White Paper

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Acknowledgments

PWR Coin would not have been possible without the prior works of the respective Bitcoin, Peercoin, and Zerocoin developers. Open source software and its contributors are constantly paving the way toward new and exciting innovations. We are grateful to our predecessors for the opportunity to contribute to this growing ecosystem.

Introduction

Fiat money defined as paper currency and coins (M0) is represented globally by approximately 180 different currencies (Contributors, 2017) with an approximate total value of USD 5 trillion. (Wagner, 2013) We believe that cryptocurrency is becoming a viable alternative to fiat as it brings a myriad of desirable improvements.

PWR Coin desires to be a part of this change by providing an alternative payment method for online shopping. We are confident that as people become familiar with using cryptocurrency, they will begin to understand the advantages and this will lead the way towards mass adoption. The vision of PWR Coin is to be an integral part of this exciting shift from the fiat to cryptocurrency!

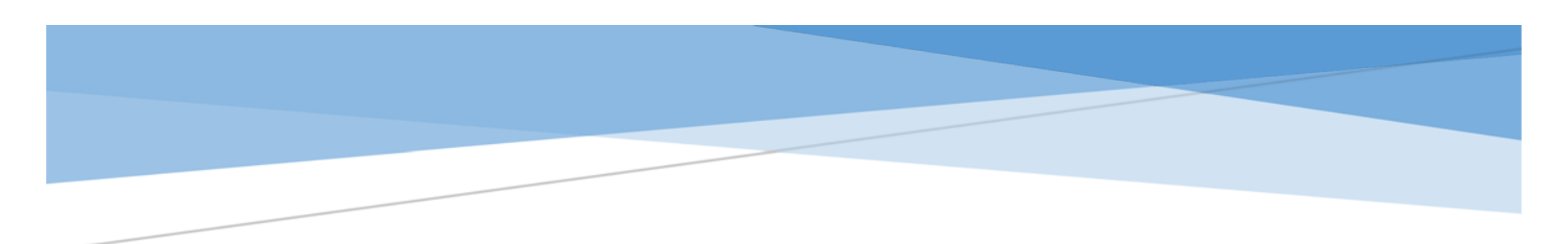
PWR Coin Historical Overview

PWR Coin was first released around May 18th, 2016 under the branded name of Powercoin and was known by the ticker PWR. If you would like to investigate this in greater detail, you can review the [Bitcointalk ANN](#) and [Twitter](#) page.

At launch, the coin generated some mild enthusiasm because it launched as a hybrid coin with both proof of stake and proof of work based on the GPU mined NIST5 algorithm. Since ASIC mining of Bitcoin was considered beyond the reach of the masses at that time, certain portions of the crypto community were [pleased to see](#) a new GPU mining coin become available that was not an ICO based offering. (Praxis, 2016)

Within approximately two hours of the initial announcement at Bitcointalk, a member named [Praxis quickly pointed](#) out that there had already been a Powercoin in existence for some time. In fact, you can see the original Powercoin was [initially announced](#) on Bitcointalk on May 12th, 2013 using the ticker of PWC. (NWO, 2013)

Interestingly enough, the observation made by Praxis was [quickly brushed aside](#) by the original poster Petersen with the following statement: “Nothing to do with that old coin since it



died we decided to keep making our project calling it PowerCoin.” Of course, this began what would become the tangled web of future events surrounding this coin.

Following these events, the coin began trading on Yobit, and a variety of mining pools began to support the coin. On June 4th, 2016, the coin began trading on Yobit at around 77 satoshis, and just four days later it reached a peak price of 195 satoshis on June 8th, 2016.

Sadly, the price made a quick reversal, and within four days it was selling for 65 satoshis on June 12th, 2016. (Coinmarketcap, 2016)

Now things begin to take a tragic turn because by the end of June the price tumbled to almost nothing with users complaining about being [unable to sell](#) the coin at even 1 Satoshi! Various accusations quickly swirled with the consensus being the developer had scammed the community and made fast cash out via a premine-pump-and-dump scheme. (Charloz24, 2016)

New and problematic development started causing additional problems such as [Hubot processing a DMCA request](#) against the Github repository for Powercoin on August 20th, 2016. (Hubot, 2016) Those not familiar with DMCA, it is an acronym referring to the [Digital Millenium Copyright Act](#). Suffice it to say the Powercoin repository was removed from Github based on copyright infringement(s).

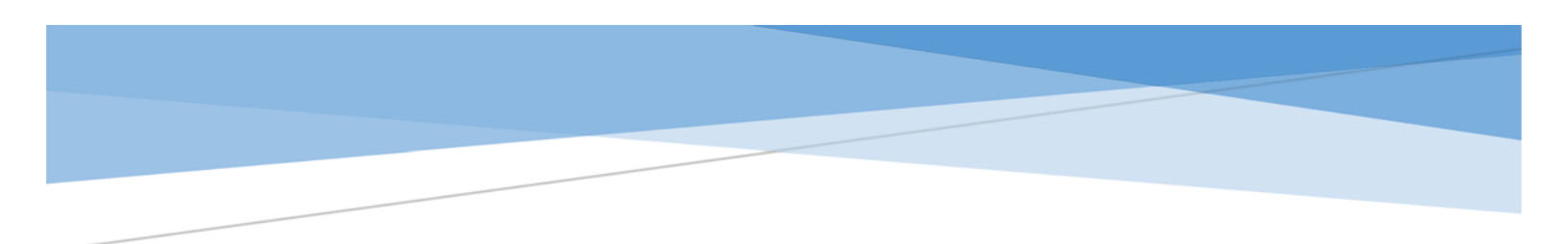
At this point, the future of the coin looked grim, and the legitimacy of the developer was called into question. The community was in an uproar, and the price of the coin was at the lowest possible amount, and the problems were still not over.

The next greatest destructive force for this coin would soon appear within the source code itself. As a result of various mistakes made by the original developer, hyperinflation raised its ugly head with the coin staking at an unsustainable rate of approximately 1095% APR. To make matters worse, the larger the balance and the longer the coins set without moving - the more they would multiply. Coupled with the fact the developer abandoned the coin, we can see a very hopeless scenario for this doomed cryptocurrency.

For whatever reason and let's say it's safe to assume it was pure speculation the coin did continue to trade albeit at incredibly rock bottom prices. Some speculators bought the coin thinking that it may someday back while others abandoned the coin.

The final nail in the coffin was when the largest of the coin holders staked their wallets into oblivion. Little did they know that once their balances accumulated over 92 billion coins, the balance would go negative making them inaccessible due to the limitations of the 64-bit signed integer type. Not only did this impact single users, it likely affected large exchanges such as Yobit, Bleutrade, and Coinexchange.

We are now up to that point in time where all exchanges have the coin in maintenance, and the vast majority of users assume the coin is dead. Little did they know that a new and



much needed second chance was just around the corner in the form of our development team stepping into breath new life into this otherwise hopeless gem.

PWR Coin Under New Management

On July 13th 2017 I was searching for ultra-low value coins to invest in and stumbled upon this coin. Because the wallet was in maintenance mode at the exchange, I decided to purchase some coins directly from an individual who was very happy to sell them to me for one satoshi of BTC per coin. Like some other hopeful speculators, I just began staking the coins in the hopes that maybe someday things would turn around.

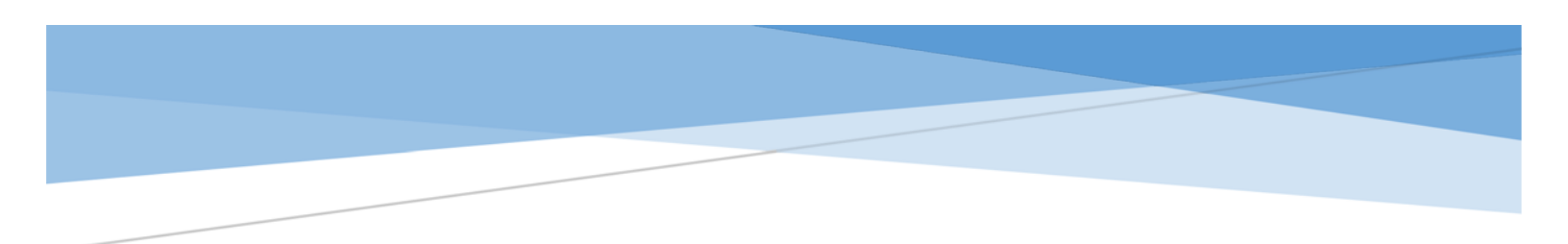
In March of 2018, our development team was considering a project wherein we would create a purpose-built coin designed specifically for use as an e-commerce payment option. We needed something with an extremely fast block time, very low transaction fees and an incredibly reliable and stable network. After some lively internal discussion, the dev team agreed that Powercoin was a great candidate and could be completely reworked to provide what we needed. At this time we decided to tackle the project wholeheartedly.

Step one was to settle on new branding, and we opted to go with PWR Coin utilizing the existing ticker of PWR. A new logo was created as well as a variety of header graphics for use on social media pages while the dev team analyzed the code and debated what changes should be made, many other items were being put in place.

PWR Coin Brand / Marketing

New social pages were created on [Facebook](#), [Twitter](#), [Google Plus](#), [Youtube](#), [Reddit](#), [Discord](#), and [Telegram](#). A domain name was purchased, and a temporary website was put up on a dedicated server at <https://pwr-coin.com> A new [Github](#) repository was created, and we made available freshly rebranded versions of the wallet. A new [Bitcointalk ANN](#) was created along with new signatures.

Additionally, new VPS seed nodes were set up to maintain the network as well as VPS nodes for testnet testing and a new [block explorer](#). A [branded marketing video](#) was created to promote the upcoming changes, build the community and a variety of promotional activities began at Discord. Last but not least, the dev team paid for an exchange listing at [CryptoHub](#) and also added the coin to the [CryptoCapWorld](#) and [CoinMarketCap](#) sites so that the PWR community could buy/sell and monitor the coin.



With the digital footprint, social channels and supporting network in place, we began to analyze the code. Although we knew going in that the code would be in bad shape, much to our dismay, it was even worse than we had imagined. Refusing to be discouraged from the task at hand, our three developers painstakingly worked through the code for months making all of the necessary corrections and improvements.

Once satisfied with the code base rework, we completed extensive testing on testnet. We subsequently made available the downloadable binaries along with a compressed blockchain for faster loading. Much hard work has now brought us to the point where we are ready to move forward with the plans that allow us to achieve our use case goals.

PWR Coin Technical Specifications

Ticker: PWR
Algorithm: NIST5
RPC Port: 4502
P2P Port: 4504
Block Find Time: 30 Seconds (Avg.)
Difficulty Algorithm: PPC diff algo / re-target every 10 mins
Block Size: 8MB
Mined/Minted Maturity: 30 Blocks (~15 Minutes)
Confirmation: 6 Blocks (~3 Minutes)
Circulation (1 Year) 2.486T PWR
Circulation (5 Years) 2.488T PWR
Protocol Support: IPV4, IPV6, TOR
PoS: Peercoin POS
MinStakeAge: 8hrs

Proof of Work (PoW) re-enabled to incentivize miners, to decentralize the network further and in doing so, dramatically increasing the number of live connections a wallet can connect to, to get to the blockchain. At the time of this writing, the network mining hash rate is stable at 41.6 GH/s.

PWR Coin Code Base Modifications

A quick overview of the tasks completed during our code base rework are present below:

The original Power Coin was cloned, based on the ZeroCoin code base. Minimal effort was placed on improving the coin or moving the technology forward. The first step was the rebranding of the Power Coin (ZeroCoin) to PWRcoin.

This was followed by numerous improvements to the code to address a “double spend” exploit, brand new MXE compilation process for a stable x32 and x64 wallet for Windows and in version 2.0.2, modifications to resolve the negative integer overflow issue when exceeding a 92 billion coin balance, to now handle the balance of up to 184 billion.

Proof of Stake (PoS) is reduced, and Proof of Work (PoW) re-enabled to encourage miners in helping to secure the network through further decentralization.

Additional modifications and improvements to the code base:

- FIX: Issue [#9](#) a bug was crashing the wallet when staking exceeds 100M coins per output limit, the code will now fail the stake and warn you to split your inputs instead of crashing. 100M is the MAX_MONEY to prevent large transactions from paying a fee.
- FIX: The wallet will no longer stake dust
- FIX: The old bitcoin IRC code is completely removed from the wallet for security reasons.
- FIX: A double spending vulnerability are fixed.
- FIX: An RPC handler bug has been resolved when an RPC client (example: ccminer) aborted its connection, this prevented the wallet from stopping properly.
- FIX: The money supply field in the wallet was broken, at FORK height the field will be reset to 0, and used to track new coin creation.
- NEW: Hardcoded seeds have been added to the wallet pointing at our block explorer and PWR seed VPS.
- NEW: At FORK height old wallets < 2.0.1 will be rejected.
- NEW: A new RPC call "burn" has been added to the wallet, for those who want to burn their coins, the coins are sent to a vanity address
69BURnBLrcKMwQmfFGFz4r52scZvJpzs
The vanity address was generated with a modified “vanitygenplus” tool that on purpose does not generate the correct private key length. Therefore the coins are lost.
- NEW: POW nist5 is enabled again as of FORK height, you can use ccminer or cpuminer-multi to mine it, there is full support for nist5 in existing pool software.

- Version 2.0.2 - Added zapwallettxes RPC to the wallet, this should avoid the painful dumpwallet/importwallet cycle in some scenarios and a new network traffic widget and peer view table.

We invite you to review our Github repository, to review the code base for PWR Coin.

<https://github.com/PWRcoin/PWRcoin>

Every detail from branding to code updates, patches to correct exploits, are well documented.

PWR Coin – Coin Supply

Circulating supply: 2.486 T PWR (June/2018)

Circulating supply (in 3 years): 2.488 T PWR

Why is it hard to come up with an accurate circulating supply?

- The explorer can only scan what is in the blockchain, which is simply a collection of inputs and outputs that make up the wallet balances.
- It's not possible to determine how many users lost their private keys due to filesystem/harddisk corruption/ accidental deletion/ software bugs etc.
- It's not possible to determine wallets on old v1.0.0 chain - (we hard forked on 12 May 2018).
- It's not possible to determine wallets with a negative balance who are unable to access their funds (fixed in v2.0.2, and already in use at CryptoHub exchange).
- Orphaned blocks are counted in the totals because the explorer software does not handle blockchain reorganizations. (A software limitation)
- The Coin Supply rises 183,960,000 per cycle after phase 8.
- The total supply takes just over three years to increase by 2.11 billion PWR Coins or only a 0.08% increase in supply to put this into perspective.
- The table below demonstrates how the total coins generated daily was drastically reduced. Pre-Fork generated 15.84 billion coins daily, compared to only 7.92 million decreasing down to approx. 1 million daily Post-Fork.

Pre vs. Post Fork – New Coins / Day

Phase	Phase Duration (days)	Pre-Fork	Post-Fork
1	59	15,840,000,000	7,920,000
2	45	15,840,000,000	4,320,000
3	92	15,840,000,000	2,520,000
4	182	15,840,000,000	1,800,000
5	182	15,840,000,000	1,440,000
6	182	15,840,000,000	1,296,000
7	182	15,840,000,000	1,152,000
8+	182	15,840,000,000	1,008,000

+ This does not account for any future development plans to reduce inflation further.

++ This does not account for any plans for coin burns.

PWR Coin – Controlling Inflation

We have implemented the following degrading PoW TIER reward system and reduced PoS.

PoW Block Reward (50% of blocks)

PoW is strategically tiered down over the coming years to bring supply growth at a comfortable near zero inflation rate.

Phase	Start Block (Fork)	End Block	Reward	Total Coins	Days	Coins / Day
1	823,000	993,599	5,000	426,500,000	59	7,200,000
2	993,600	1,123,199	2,500	162,000,000	45	3,600,000
3	1,123,200	1,389,599	1,250	166,500,000	92	1,800,000
4	1,389,600	1,915,199	750	197,100,000	182	1,080,000
5	1,915,200	2,440,799	500	131,400,000	182	720,000
6	2,440,800	2,966,399	400	105,120,000	182	576,000
7	2,966,400	3,491,999	300	78,840,000	182	432,000
8+	3,492,000	4,017,599	200	52,560,000	182	288,000

PoS Block Reward (50% of blocks)

NEW: PoS rewards have been severely reduced to 500 coins per Proof-of-Stake block.

Phase	Start Block (Fork)	End Block	Reward	Total Coins	Days	Coins / Day
1	823,000	993,599	500	42,650,000	59	720,000
2	993,600	1,123,199	500	32,400,000	45	720,000
3	1,123,200	1,389,599	500	66,600,000	92	720,000
4	1,389,600	1,915,199	500	131,400,000	182	720,000
5	1,915,200	2,440,799	500	131,400,000	182	720,000
6	2,440,800	2,966,399	500	131,400,000	182	720,000
7	2,966,400	3,491,999	500	131,400,000	182	720,000
8+	3,492,000	4,017,599	500	131,400,000	182	720,000

Total Effect on Supply

Phase	PoW Coin	PoS Coin	Total Coin	Supply	Days	Coins / Day
1	426,500,000	42,650,000	469,150,000	2,486,667,383,431	59	7,920,000
2	162,000,000	32,400,000	194,400,000	2,486,861,783,431	45	4,320,000
3	166,500,000	66,600,000	233,100,000	2,487,094,883,431	92	2,520,000
4	197,100,000	131,400,000	328,500,000	2,487,423,383,431	182	1,800,000
5	131,400,000	131,400,000	262,800,000	2,487,686,183,431	182	1,440,000
6	105,120,000	131,400,000	236,520,000	2,487,922,703,431	182	1,296,000
7	78,840,000	131,400,000	210,240,000	2,488,132,943,431	182	1,152,000
8+	52,560,000	131,400,000	183,960,000	2,488,316,903,431	182	1,008,000

PWR Coin Use Case – PWR PAY

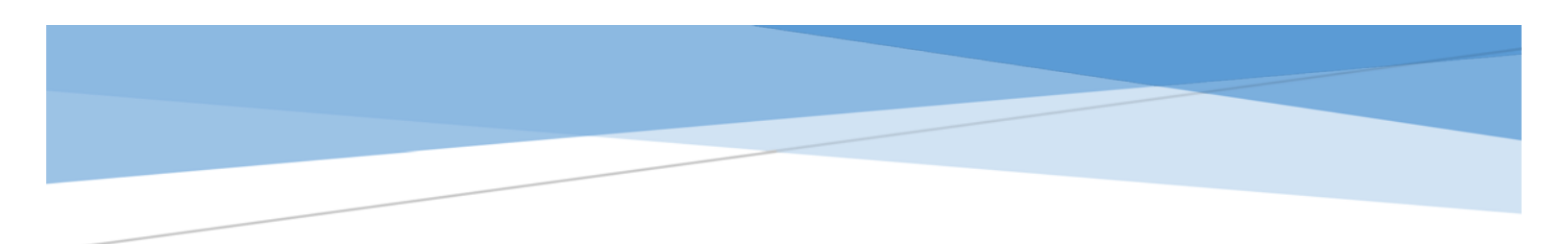
As mentioned previously, the intended use case for this coin is as an e-commerce payment option. More specifically, the PWR PAY e-commerce gateway which we will be tackling in multiple phases of development, built on PHP.

In simple terms, PWR PAY will be a free-to-download plugin that can be used to extend the functionality of the e-commerce website by offering PWR coin as a payment option. To further enhance the capabilities of PWR Coin, we will be setting up a gateway that allows the transfer of PWR coins from one e-commerce website to another that is set up with the PWR PAY plugin.

Initially, we will release the plugin as an extension of the Woocommerce/Wordpress platform. It is here where the process of monitoring for bugs and any necessary features improved usability will begin. Once the PWR PAY plugin is proven to be stable and user-friendly, we will create additional plugins for use in other e-commerce platforms such as Shopify, Magento, Opencart, Prestashop, Zencart, etc.

Our goal will be to provide a straightforward installation procedure which can be accomplished by a typical website developer. Detailed installation documentation will be included with the plugin and offer technical support through our various channels where we already provide service to the community.

Regarding PWR Coin being the coin of payment, we have methodically massaged the coin specifications for this very task. For example, block timing consistently runs at about 30 seconds to allow for the accommodation of a substantial quantity of rapid e-commerce payments. Additionally, the ultra-low transfer fee of .00001 PWR Coin makes the transaction incredibly cost-effective.



Last but certainly not least is that the security and stability of the network are achieved via the hybrid nature of the coin. A vast network of computers [around the world](#) are online 24/7 performing proof of stake (PoS) while simultaneously there is also a substantial amount of proof of work (PoW) hashing. PoS process One-half of the blockchain blocks while PoW processes the other half.

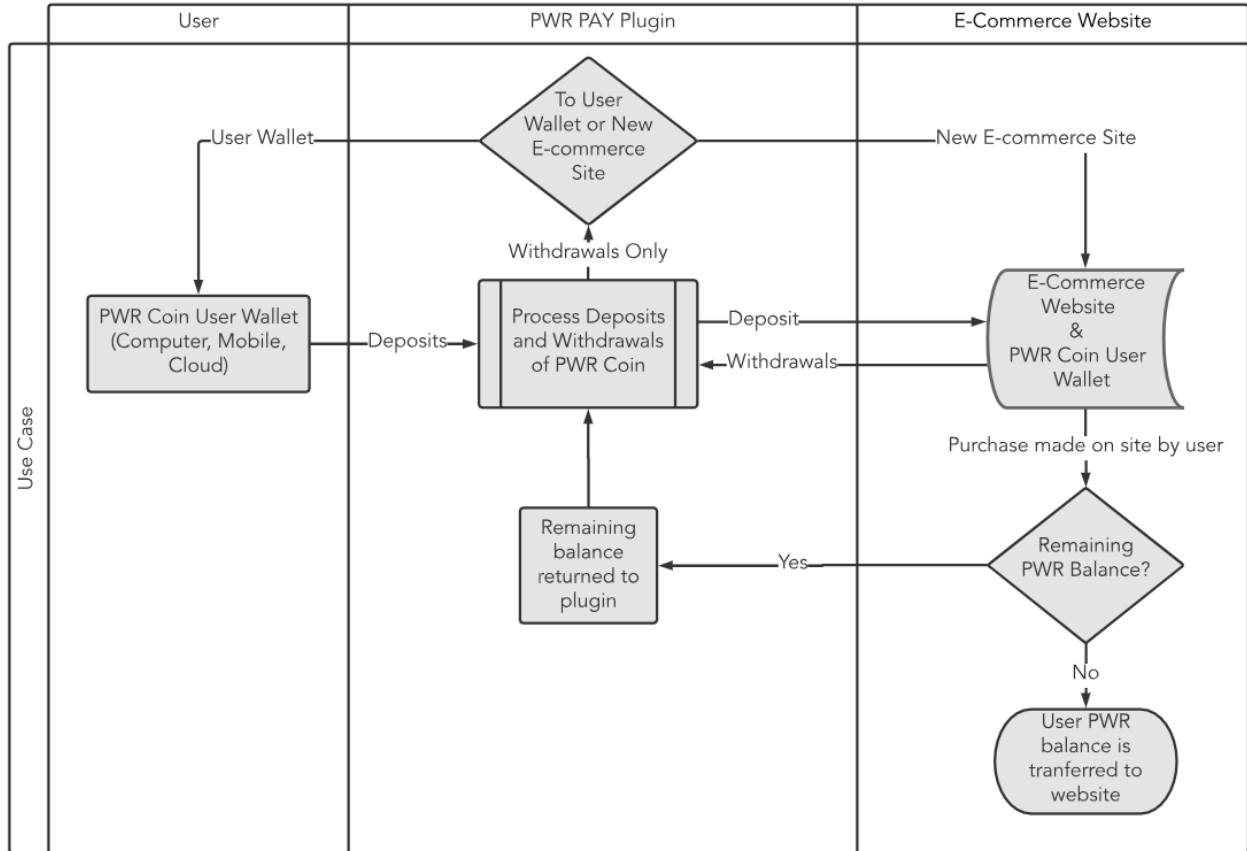
This virtually eliminates any concerns of a 51% type of attack as well as any concerns of insufficient transaction processing resources. With open wallets staking, miners adding value through PoW, and e-commerce sites further expanding the list of available nodes, strengthens the entire PWR Coin network.

It is important to understand that the PWR PAY e-commerce plugin can also provide some other interesting benefits for the installer and coin. The installer of the plugin will benefit as a result of gaining PoS payouts on balances stored in their wallet.

When an e-commerce website is running the plugin, the balance will provide for staking rewards which provide the installer with a stream of coins. The coin itself can benefit because each e-commerce plugin installation provides another network node which can process transactions for the entire network.

Additionally, the development team is looking at leveraging the PWR PAY plugin with a variety of options to help control and/or reduce the coin supply such as sending a transaction fee to the official burn address, requiring a minimum plugin wallet balance to keep the plugin activated, etc.

Flow Chart to outline the PWR PAY processing infrastructure:





PWR Coin Team

Project Coordinator / Front-End Developer / Marketing

DisasterFaster: Began working with IBM mainframe big data systems in the US Army in 1983 and has been continuously involved in many facets of the I.T. world for more than 35 years. Has completed 180 semester hours of college and holds a bachelor's degree in I.T. with a focus on software engineering. Has been involved in a wide variety of successful startup projects dating back to the 1980's and is known for his passion, motivation, and dedication. PWR Coin is DisasterFaster's second major blockchain project, and he enjoys interacting with the development team and the community. His vision, energy, and ability to communicate his ideas, brings together a very tight-knit and focused team to cryptocurrency.

Crypto Developer / Infrastructure Support

Plainkoin: Specializes in code branding, Merkle and genesis block creation, testnet environments, increased decentralization via Seed Node creation. Web-based crypto apps, online and offline Paper Wallets. Twenty-three years in the Information Technology world supporting everything from enterprise level desktop environments to servers, switches to LANs as well as an extensive networking/communications background. First began coding in MQL4 to create Expert Advisors for trading FOREX markets on the MT4 platform. Eventually diving into the world of C++ and crypto development as well as supporting infrastructure. PWR coin is PK's second major project, to ROI coin, an ongoing project that will take some time to mature, while working the PWR project.

Blockchain Developer / Infrastructure Specialist

ghobson: Masters Degree in Advanced Methods in Computer Science including expertise in Systems Integration and Data Storage technologies. He has over 15 years experience working in the Data Storage industry. This will be his 4th Cryptocurrency project where he specializes in core wallet development, build/packaging, as well as maintaining Blockchain Explorers and Github repositories.

Business Development

Ethano: Specializes in Customer & Technical Support, Customer Relationship Management (CRM), Process Flow, and Product Management. Has sixteen years experience in the Technical & Customer Support world supporting internet technologies, mobile applications, computer systems and overseeing a Global Technical Support Team. As for a brief history, he began in internet and mobile application support before moving into the world of Product Management. PWR coin is Ethano's first major cryptocurrency project, however, brings a wealth of experience working on projects with Mobile Technologies for the public, Customer Management Systems, Communication software and HR systems.

Data Analyst / Research / Statistics

Andemang: Masters Degree with a skill set including expertise in research, data analysis, statistics, correlation, reporting, database design, and management. Worked as a government scientist doing a variety of research related to the agricultural industry. Speaks four languages fluently and this is Andemangs second cryptocurrency project.

Content Development / Media Specialist

LMG: Is currently finishing a bachelors degree as an English major and teaches part-time at a local elementary school. LMG's specialties include literature, grammar, creative writing, proofreading and general content development. This is LMG's first cryptocurrency project.

Social Media Manager

Diwata: Expert in Marketing Analytics and Social Media Engagement, excellent communication skills with 11 years of Customer service and technical support. Engaged users inquiries and concerns via various social media communication outlets, strengthening customer relationships through follow-up, ensuring a customer had all the answers needed to make an informed decision. Detail oriented with copy-writing and editing skills, diligent use of proper grammar in all forms of communication to ensure a higher level of professionalism.

PWR Coin Road Map



1st Quarter 2018

- New Development Team
- Fork @ Block 823,000 ✓
- New Branding ✓
- New Digital Footprint ✓
- New Exchange Listing ✓

2nd Quarter 2018

- New Website Design
- Release Roadmap ✓
- Release White Paper ✓
- Release Wallet v2.0.1 ✓

3rd Quarter 2018

- New Marketing Videos ✓
- New Tutorial Videos ✓
- Release Paper Wallet ✓
- Release Tipbot ✓
- Wallet Enhancements v2.0.2 ✓

4th Quarter 2018

- Branding Push
- Paid Marketing Push
- New Market Cap Listing
- New Exchange Listing

1st Quarter 2019

- Wallet Updates
- Lightweight Wallet Version
- Tipping System
- Dice Game

2nd Quarter 2019

- Market Analysis
- Marketing Push
- In-house Mining Pool* (Dependant on demand)
- New Exchange Listing

3rd Quarter 2019

- Marketing Push
- Android App
- Website eCommerce
- Website Faucet

4th Quarter 2019

- Paid Marketing Push
- PWR PAY Tutorials
- Wallet Enhancements
- Decentralized Exchange

Official PWR Coin Channels

Unfortunately, some scammers and copycats are using our work. Please always verify a URL.

We never ask for anything, never give anything to someone asking.

Home Website	https://pwr-coin.com
Wallet Download	https://github.com/PWRcoin/PWRcoin/releases
Paper Wallet	https://paperwallet.pwr-coin.com
Online Wallet	https://online-wallet.pwr-coin.com
Block Explorer 1	https://blockexplorer.pwr-coin.com
Exchange 1	https://crex24.com/exchange/PWR-BTC
BitCoinTalk ANN	https://bitcointalk.org/index.php?topic=2868184.0
Market Cap Info	https://coinmarketcap.com/currencies/powercoin
Facebook	https://www.facebook.com/pwrcoin
Twitter	https://twitter.com/pwr_coin
Google Plus	https://plus.google.com/u/0/+PWRcoin
Discord	https://discord.gg/Pgw2RNS
Reddit	https://www.reddit.com/r/PWRcoin
Telegram	https://t.me/pwr_coin_official
Telegram	https://t.me/pwr_coin
YouTube	https://www.youtube.com/channel/UCVb0ZlaNjijZc6HLE0RwVlg

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