



# JSE COIN

JAVASCRIPT EMBEDDED CRYPTOCURRENCY

Whitepaper

19/7/2017

Updated v1.02 27/8/2017

Updated v1.03 13/9/2017

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## Vision

All major cryptocurrencies currently rely on miners to carry out the cryptography hashing. Hashing is a mathematical equation that is carried out at large scale to secure a blockchain which is the underlying transaction database of a cryptocurrency. This process consumes huge amounts of computing power, server farms and electricity. Miners are rewarded for their efforts by the distribution of the currency.

It is possible to carry out SHA256 and other encryption in a standard web browser or on a mobile device. By embedding a javascript snippet on a website all visitors to the website could carry out the hashing encryption process which when combined at scale **could replace the role of the miners**. Website owners would then be rewarded by the distribution of the currency. We have estimated 1 in 15 people either own or have access to a website which provides a large distribution and potential client base.

By using surplus CPU power huge energy and cost savings could be made over traditional cryptocurrency networks.

## Environment

Do you know what Cuba, Croatia and Sri Lanka all have in common? They all consume less electrical power than the Bitcoin network (16.73 TW/hr as of September 2017).

The electrical resources used for mining are increasing at an uncontrollable and unsustainable rate. In the last 30 days the Bitcoin Network energy consumption has increased 0.8 TW/hr. To give some context the CERN large hadron collider which required its own power station consumes 1.3 TW/hr annually.

The higher the BTC price climbs the more incentive there is for industrial mining corporations to open new server farms where their only variable cost is electricity.

JSEcoin is different, it is mined using background resources within a web browser tab. The additional power consumption when the device is in use is miniscule. The CPU usage for our hashing algorithm is **less resource demanding than the loading of a video advertisement**. By using surplus CPU availability within the browser we can efficiently hash data at scale to secure the JSE blockchain.

In the future all industries will need to move towards energy efficient technologies including cryptocurrencies and fin-tech.

## Webmasters

JSE cryptography is providing a way for website owners to **monetize their content** as an alternative to displaying ads. This may be preferable for sites where space is at a premium or banner advertising is not appropriate. It could also be used in conjunction with existing advertising methods as an additional revenue stream.

The code can be loaded as a post-page-load async process so it would not disrupt website performance and the user experience would not be affected. The hashing would run in the background, behind the scenes.

“Poor Quality” traffic which doesn’t earn ad revenue such as visitors from remote regions or some js enabled spiders could also be monetized for the first time. This could provide a foot in the door opportunity to test the program for larger media companies.

1) Webmaster registers and copies a code snippet on to their website.



2) Website visitor carries out cryptography hashing in the background while browsing website.



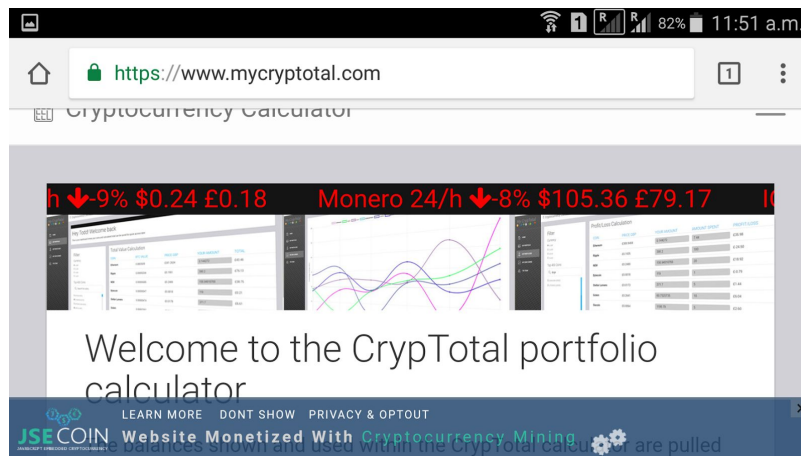
3) Webmaster is awarded JSEcoin for helping secure the network.



## Privacy

Privacy and transparency is paramount to our future success. It is necessary to tell users that the mathematical hashing process is running and the website is monetized via cryptography.

We do this much like the cookie declaration in Europe. Included is a link to an opt-out and privacy option. If a website user decides to opt-out this preference will be stored in their browser and the hashing function will be disabled on all websites in the network.



An additional benefit to displaying the privacy message is that it puts the JSEcoin in front of over a 1.5 million unique visitors every day (Unique visitor stats 13/9/2017) and provides a source of free advertising that is partly to thank for our **exponentially growing user base**.

The code running on the users browser is not resource intensive in the same manner as traditional GPU and CPU mining programmes. The additional CPU usage and power consumption will be negligible because the code only consumes excess CPU power available to the browser.

## Trust

Cryptocurrencies create value through trust. Investors and consumers exchange fiat money (i.e.USD/EUR) for cryptocurrencies on the understanding that the team behind it will operate in their best interests. Trust can be increased by publishing public accounts, open-sourcing code, maintaining ethical business practices.

Trust is essential and will be proportional to the operating transparency.

## Timeline



## Coin Distribution & ICO

We are currently targeting an ICO in 2018. This date may change as it is dependant on external factors and investor demand.

### Current Distribution - 545,000 as of 13/9/2017

Current circulation can be found on the JSEcoin.com homepage

CoFounders 400,000 (100,000 JSE each)

Company Retained 100,000 (Working captial to fund investors contributions and affiliate program.)

Publisher Daily Distribution: 1440 max / daily

Self-miner Daily Distribution: 720 max / daily

The JSE team has not set an ICO distribution plan yet as this will be dependant on demand and external factors. We will need to inflate the current circulation but at what ratios and pricing are yet to be decided.

Our aim is to secure adequate funding to reach mainstream global scale and cover long-term operating expenses while keeping the total distribution to a minimum and maximise the distribution spread. ICO and final distribution volumes will be set closer to launch when we have a better idea of investor interest and demand.

As the user base grows it may be necessary to increase the publisher and self-miner rewards.

## Product

The screenshot displays the JSEcoin web application interface. On the left is a dark sidebar with the JSECOIN logo and navigation menu items: Dashboard, Funds, Transfer, Export, Mining, Publishers, Investors, Referrals, Settings, Feedback, and Log Out. The main content area is titled 'Export / Import' and contains two forms: 'Export' with an 'Amount' input and an 'Export Coins' button, and 'Import' with an 'Import Code' input and an 'Import Coins' button. Below these forms is a table titled 'Exported Coins' with the following data:

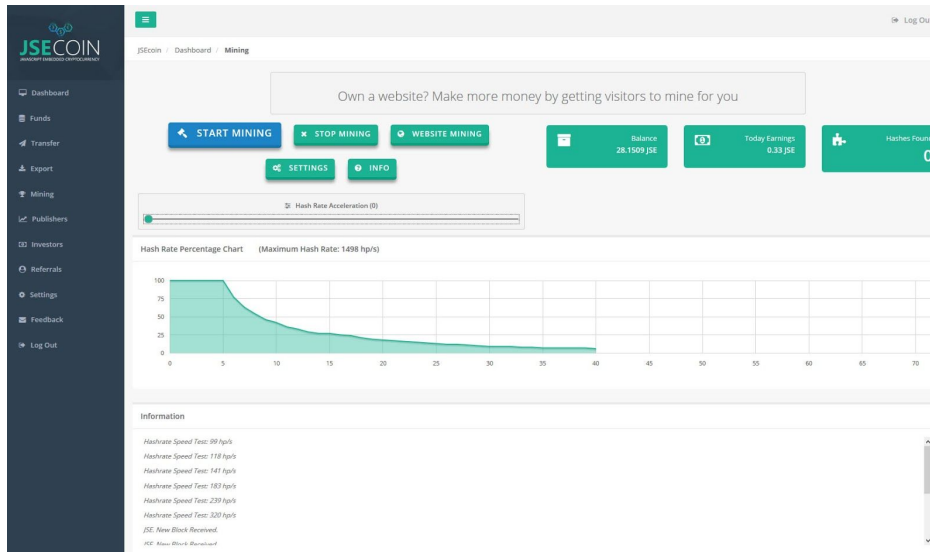
Coin Code	Value	Date	Used	Import
ce79e7f81112cfee898f02ed2c557c1c895a433abd0d383ab5a86e9b130a0c39	0.02	Wed, 13 Sep 2017 10:21:47 GMT	Available	Import
f0ae51227b929dc2da8f9c07615e7e6f0680914351c2f07cbab73406f599eb28	0.2	Tue, 12 Sep 2017 19:50:57 GMT	Used	Import
c893e451fb6c51db12f3b9d336c80021790229430ce11dba7db7d2aaba7ea779	0.4	Tue, 12 Sep 2017 19:50:29 GMT	Used	Import
534b448adeb9e401bfb417862ec5b48a0417ca14ec2d68b447c130179fba4f87	1	Tue, 12 Sep 2017 19:50:05 GMT	Used	Import
f48829bfa52e45baeaf361be983db74e6c5a1077ddddd99142da8fe6bf7ec35	0.3	Tue, 12 Sep 2017 19:49:26 GMT	Used	Import

## Consumer Focus

The cryptocurrencies that achieve long-term success will be ones focused around the users.

**Fee free fast transfers** - utilizing a multi-blockchain core database along with an account ledger we have been able to get the transaction block time down to 30 seconds. This has been production tested at 50,000 transactions per second in a test suite (the same operating capacity of VISA).

**User-Mining** - To make cryptocurrency fun, any user can log into their control panel and click the start mining button. Their browser will then be left to mine coins in the background. A dedicated coin pool will be offered so anyone with a web connection can go online and “earn” their fair share of the digital currency. This pushes the platform past “just being for webmasters and app developers”



**Simple Platform** - The main user interface platform at <https://jsecoin.com/platform/> is for non-technical users. Someone with no previous experience of cryptocurrency should be able to setup an account and purchase,send,mine JSEcoin.

## Technology

The code snippet that website owners can install is an embedded external javascript file similar to common codes used for website analytics and advertising. A wordpress plugin is also now available which makes it really easy to install JSEcoin on a website.

<https://wordpress.org/plugins/jsecoin/>

The javascript code loads at a set time after the page has finished loading preventing any performance delay and SEO page speed penalties. The public block data is sent to the website users browser as an Ajax response. This will be processed while they are reading the page and the most accurate hashes sent back to the server. The server will collect all the hashes compare, check, select the best and award/distribute coins.

In our speed tests the crypto.subtle browser API performed very well. Hash rates exceeded 30,000 hp/s in a single browser, while this is not comparable to ASIC hardware it is more than sufficient for what we need. Further increases could be made possible using custom WASM modules in the future. SHA256 is used as the main hashing algorithm. Elliptical curve seck256k1 cryptography is used for signing and verification.

Server-side code is written on Node.js meaning all code for the entire system is javascript.

The user platform integrates with the JSE network as a client providing a simple point of entry for everyday users.

Transactions are digitally signed within the browser and then sent to a node or server to verify.

The current blockchain is publicly available at <https://jsecoin.com/data/blockchain.json>

The ledger is publicly available at: <https://jsecoin.com/data/ledger.json>

A blockchain explorer will be developed in Q3 2017.



## Investors

We are currently offering investors a chance to contribute to the project in exchange for pre-ICO JSEcoins. We have tied the currency to the USD for this initial period while we raise the funds required for marketing, exchange fees and business start-up costs.

The current market cap would give the company a valuation of \$545,000 USD which in our opinion is reasonable for a cryptocurrency start up with so much potential and traction.

Information from the FCA on Cryptocurrency Investments and ICO's  
<https://www.fca.org.uk/news/statements/initial-coin-offerings>

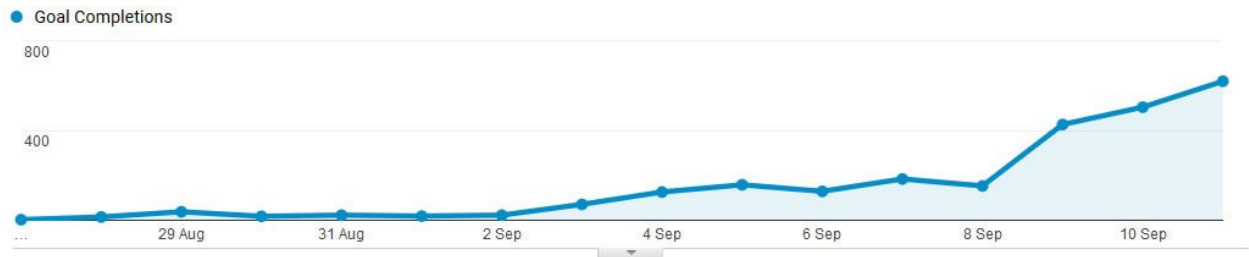
### What are the investment risks?

- **Unregulated space:** Most ICOs are not regulated by the FCA and many are based overseas.
- **No investor protection:** You are extremely unlikely to have access to UK regulatory protections like the Financial Services Compensation Scheme or the Financial Ombudsman Service.
- **Price volatility:** Like cryptocurrencies in general, the value of a token may be extremely volatile – vulnerable to dramatic changes.
- **Potential for fraud:** Some issuers might not have the intention to use the funds raised in the way set out when the project was marketed.
- **Inadequate documentation:** Instead of a regulated prospectus, ICOs usually only provide a 'white paper'. An ICO white paper might be unbalanced, incomplete or misleading. A sophisticated technical understanding is needed to fully understand the tokens' characteristics and risks.
- **Early stage projects:** Typically ICO projects are in a very early stage of development and their business models are experimental. There is a good chance of losing your whole stake.

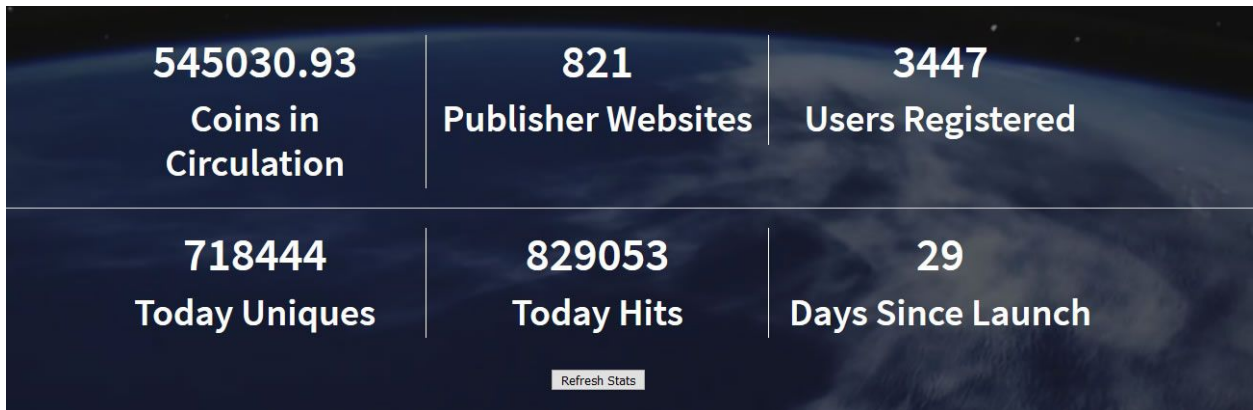
## Traction

Since we opened the platform up to the public on the 15th August 2017 the adoption and feedback from the community has been incredible.

Our user base is growing exponentially, webmasters are pushing huge volumes of traffic and outside investors trusting us with their funds.



*Recent user sign-ups to the platform*



*Today's Stats at 1pm 13th September 2017*

*See these live on the JSEcoin.com home page*

## Security

Security is everything when dealing with online financial transactions. The following measures have been taken against foreseeable threats.

Double spending - With multiple blockchains in place the threat of double spending becomes more complicated. An account lock is put on a user when they initiate a transaction and then removed once the block is written. The drawback of this approach is that a user can only place one transaction at a time. With a 30 second block window this should not provide a practicality problem for most users.

Server Data - Private data is kept on the platform server but is not stored in the blockchain. Private email addresses, users names and locations are stored in plain text. Passwords are hashed and then removed from the system.

Hashing help - A webmaster could modify the browser side javascript to link up high powered hashing hardware and return a better hash every time. The algorithm for rewarding webmasters will focus on impressions as well as hashing. Automated checks are run hourly to remove any statistically improbable mining.

Multiple Devices/Accounts - Platform miners could benefit from running multiple devices or accounts. If we allow this to happen it will lead down the same road as Bitcoin where the mining is dominated by commercial organisations. Our system has anti-fraud measures in place to ensure a fair distribution of the coins to individual end users.

Working to stay ahead of fraud and cyber-criminals will be an ongoing battle across multiple fronts.

## Market Overview

Cryptocurrencies are at a turning point in 2017 with popular consumer based trading platforms such as Coinbase making it easier for investors to purchase cryptocurrency.

The two largest cryptocurrencies Bitcoin and Ethereum have gone up 527% and 2086% respectively. The appetite for an alternative to government backed currency is increasing.

With national debt spiralling out of control it seems hyper-inflation is inevitable. The stock-markets are at all time highs and due a crash by historical statistics. If these two factors happen together a lot of funds are going to be moved in to the cryptocurrency space. Bitcoin has the first mover advantage and Ethereum has a superb smart contract platform which has become the standard for altcoin ICO's.

There is still a dark shadow hanging over cryptocurrency though and it isn't the environmental impact. Most consumers still associate Bitcoin with the news and press releases related to the closure of the silk road darkweb site and illegal trading of goods. The US government has taken somewhat of a stance against cryptocurrencies on the grounds that it could be used for money laundering and to fund terrorism. The Chinese government have recently set out to block exchanges. Legislation, regulation and taxation are still all lagging behind the development and adoption of digital currency which makes governments nervous along with the negative threat to their own currencies.

In our opinion no one has successfully made a cryptocurrency system that is built around consumers. Most of the current developments are built on top of an existing blockchain technology and compromises are made to consumers.

JSEcoin was built first and foremost as a consumer platform. We developed a system that we believe is how cryptocurrencies should operate in the future. We dreamt it, we designed it, we built it and then we made it work with a blockchain. The result is an intuitive, simple and user friendly system for transferring and storing digital funds.

## Marketing

Marketing and PR are key to generating enough interest in the cryptocurrency to create market liquidity and create a real store of value.

Initially there would be four key demographics

Website owners - required to carry out the hashing

Cryptocurrency investors - required to trade and invest in the currency

Strategic partners - cryptocurrency exchanges and wallets, ad networks





General public- required to create buzz and eventually become a mainstream currency

Luckily our **team specializes in ad-tech** and online marketing can be carried out in-house.

We spent roughly £500 GBP on marketing in the first month, mainly on Facebook advertising aimed at webmasters. This was paused prior to completing the major platform update on the 11th September 2017. We now feel we are ready to restart and scale marketing efforts towards cryptocurrency investors in the coming weeks.

The affiliate/referral program we have as part of the platform has proved a huge success and incentivises users to spread the word about JSEcoin.

## The Team

			
<b>James Bachini</b> <i>Co-founder</i>	<b>John Sim</b> <i>Co-founder</i>	<b>Dave Mallett</b> <i>Co-founder</i>	<b>Tracey Howard</b> <i>Co-founder</i>
Ad tech specialist and entrepreneur.	Head of developments with a wealth of experience in big data	Cryptocurrency consultant, investor and trader.	Finance specialist in charge of accounts and funding

*We have a combined 45 years experience in cryptocurrencies, finance and ad-tech.*

## Live System

The mining code is currently live on the main [jsecoin.com](http://jsecoin.com) site and blog. You can view this live by opening a console window (CTRL + SHIFT + J in Chrome or CTRL + SHIFT + K in Firefox). The privacy pop up will also display once per visit after a set period delay at the bottom of the screen.

Further live publisher sites:

<http://strictlymotivational.com> - Internal site used for testing

<http://sosharethis.com> - Publisher site with approximately 250k uniques per day

<http://mycryptotal.com> - Publisher site in cryptocurrency niche

## Platform

The platform is now live and open to the public. While we still consider it to be in beta the ledger will be carried forwards on all future updates. Become an early adopter and see for yourself how blockchain cryptocurrency does not have to be complicated or resource consuming.

Setup your account at:

<https://jsecoin.com/platform/>