

Educoin

By: The Educoin Team

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01/09/17

Abstract:

Educoin is a peer-to-peer, institution-to-institution version of electronic cash that will allow online payments for educational materials to be sent directly from one party to another, thus bypassing financial institutions. The creation of an educational ecosystem also allows for easy community based vetting of thought leaders, academics, institutions and educational materials. Additionally, Educoin will improve the achievement tracking and validation process. Blockchain technology, coupled with OpenBadges, will provide a new way to award and store achievements. The Educoin ecosystem will provide a platform to purchase and integrate educational materials, award and validate achievement, and track/audit previously achieved merits.[1]

Introduction

Numerous inventions in our history have had huge implications on how we interact and transact with each other. The canoe preceded the boat, the wheel allowed for faster transportation, and two brothers obsessed with flight brought forth airplanes. As our society and technology progresses, so do our needs and what we consider normal. The global landscape has shifted drastically. We now have a generation of students that have no memory of a time without the internet.

“We’re now in the midst of another quiet revolution: blockchain, a distributed database that maintains a continuously growing list of ordered records, called “blocks.” [2]. This paper will not serve as an introduction to blockchain technology; a basic understanding of its function is assumed of the reader. However, the Educoin team believes the path towards mass adoption of blockchain technology is founded in basic blockchain education.

Naturally, curiosity and confusion often surround novel inventions. In order to demystify digital currencies, the Educoin team will create and curate educational materials that are clear, concise, and research driven. The material created will be easy to understand, relatable for all demographics, and lead to a higher level of understanding of blockchain technology and its many advantages. However, it is the Educoin Ecosystem that makes Educoin more than just a cryptocurrency. Our ecosystem will allow for the seamless purchase and integration of educational curriculum, achievement tracking, validation, and track/audit previously achieved merits.

2. Out With The Old And In With The New

Some of you may remember the old EduCoin. We have retained some of the original core concepts of the previous version and completely revamped the inner workings of the coin. The original coin was released on February 25, 2014 and appears to be in essence, a Doge clone. You can find the original post in our appendix. A lot has changed since then and we are proud to show off our new shiny coin!

2.1 The Coin

In 2014, the anonymous development team behind the original EduCoin wrote the following regarding the use of EduCoin:

“EduCoin (EDU) is a cryptocurrency, based on bitcoin’s pioneering technology, that helps us pay for education in ways we could never have imagined before. Education is rapidly evolving online, across devices and platforms, and even at the schools we attend. We need a digital currency that can help students, educators, and third parties make secure transactions without fees, rates, or long approval times. EduCoin aims to be the worldwide standard for student transactions in the learning economy.” [4].

The new team behind Educoin feel that these goals, although well intentioned, are rather lofty given the systemic problems facing the educational system. As a result, we have narrowed our focus to educational materials and will revisit expanding when the time warrants such action. Take a look below to see how the two coins compare.

<i>EduCoin (Old)</i>	<i>Educoin (New)</i>
PoW	PoW/PoS
PoW: Scrypt	PoW: Keccak
N/A	PoS: Keccak
N/A	Min Stake Age: 1 Day, 1350 Blocks
N/A	Max Stake Age: 7 Days
10,000+ Edu Block Reward	5 Edu Block Reward
101,000,000,000 Total Supply	55,000,000 Total Supply
30 Second Block time	64 Second Block Time
Kimoto Gravity Well Difficulty Retargeting	Difficulty Retargeting Each Block

3. Changes Made

One of the biggest barriers with the original version was the enormous coin supply. In order to resolve the problem we changed three things: the algorithm, the protocol, and the total supply.

3.1 The Algorithm

The most significant change is the algorithm (algo) for Educoin. Instead of using Scrypt, we will be using the Keccak algorithm instead. As a result, our algo will be resistant to ASIC and allow for a wider range of cards to be used in the mining process, thus leading to wider adoption of the coin.

A brief intro to the Keccak algo can be found below:

“Keccak is a family of sponge functions. The sponge function is a generalization of the concept of cryptographic hash function with infinite output and can perform quasi all symmetric cryptographic functions, from hashing to pseudo-random number generation to authenticated encryption.

For a quick introduction, we propose a pseudo-code description of Keccak. The reference specification, analysis, reference and optimized code and test vectors for Keccak can be found in the file section.” [5]

3.2 The Protocol

As cryptocurrency has evolved, different methods of mining have developed. One protocol which has always shown potential is Proof of Stake (PoS). Although there are varying views on the efficacy, fairness, and overall feasibility of PoS, we feel that the hybrid of PoW (Proof of Work) and PoS provide a perfect balance of mining protocols. Also, being a coin that focuses on cryptocurrency education, we wanted to create something highlighting multiple forms of mining without over complicating the issue.

As protocols evolve we hope to evolve too. The Educoin team is not married to one particular chain, protocol, or algorithm. Discussions have been had about the prospect of creating “child chains” that might serve as educational tools. We do not believe in a single cryptocurrency world. Cryptocurrencies have opened up an entirely new way to view economics and transfer value. We will strive to stay current with the most recent trends in cryptocurrency technology and inform every one of the newest trends developing.

3.3 Coin Supply

Arguably, the most noticeable change that has been made is the coin supply. We have reduced the total supply by 1/2020. Although this may seem like a lot, we feel it was necessary. The new total supply is 55,000,000 Edu. The first block will have 25,000,000 Edu which is reserved for previous Educoin holders (we will explain how this works in the swap section

below). After the genesis block, the block reward will remain a constant 5 Edu until we hit our 55,000,000 Edu.

Total money supply within an ecosystem is a debate that has existed since the beginnings of economies and trade. We do not believe we can answer such monstrous economic quagmires, nor are we insinuating we have the right answer. However, we do believe our coin supply fits in the middle of the road and will provide a great solution for our needs. Our supply adjustment addresses the immediate needs of the original EduCoin holders and, at the same time, will stimulate growth in new users.

4. The Swap

As stated above, the first block will immediately release 25,000,000 Edu. With transparency in mind, we will make the wallet address public so users can track those funds. On September 1, we will open up the swap wallet to original EduCoin holders. The swap will take place through swap.educoins.io at a rate of 5000:1 Edu and any fraction thereof. The swap wallet will be open for the month of September, After September 30, 2017 has passed the remaining Edu will be divided; 20% going towards bounties, 15% for giveaways, 15% for the dev team, and the remaining 50% will be redistributed evenly throughout the Edu community. In an attempt to be fair and transparent we will keep the swap open for 30 days. After the initial 30 day period has ended we will shut down the swap and reserve the remaining balance for another 60 days before distribution. During this reserve period we will address swaps on a case by case basis in the event that the initial swap window was missed. The original EDU will be held in a PoB, multisig wallet for security purposes.

4.1 Bounties + Giveaways + Dev Fund = 50%

There isn't an accurate way to predict how much of the 22 million EDU will be claimed. Based on our own analysis of the original block chain, we anticipate a significant portion of unclaimed EDU. Due to this being excess supply, the Educoin Team are creating a community fund reserving 50% of the remaining for stragglers who missed the swap window as we do not want previous Educoin community members to be left out. This window will be open until the end of the year December 31, 2017. Anything unclaimed at that point will be distributed to community members as a sort of dividend, please reference Section 4.2 for more details. Regarding the other 50% of unclaimed funds:

15%	Development Fund / Resource Expenditure
15%	Airdrops designed to incentivize new user growth
10%	Paid Advertisement / Promotions
10%	Bounties: Translations, Social Media, Etc.

Quarterly reports will be made available showing each expenditure for easy community auditing and proof of funds.

The Dev team is made up of Sp00lin9, Qwazix, BobMC, Envist and our educational liason.

4.2 Future Mining Inflation

The other 50% will be distributed over the foreseeable future until there is nothing left to give. The remaining coins (of this 50%) will be spread evenly over active Educoin wallets once a year on December 31st. Each year 10% of the remaining coins will be distributed out. See sample distribution table below.

YEAR	TOTAL COIN	DISTRIBUTION (10%)
Year 1	100,000	10,000
Year 2	90,000	9,000
Year 3	81,000	8,100
Year 4	72,900	7,290
Year 5	Etc.	Etc.

5. Educoin Ecosystem

The Educoin Ecosystem is what makes Educoin more than just a cryptocurrency. The Educoin cryptocurrency is the oil that makes the ecosystem engine run. Our ecosystem will allow for seamless purchase and integration of educational curriculum. The ultimate goal is to expand to larger curriculum base, however, with recent mainstream trends there is a need for basic cryptocurrency education before that expansion can occur. Through ecosystem.educoins.io administrators, professors and students will have access to community vetted educational content.

Imagine a world where *learning is earning*. By utilizing Mozillas OpenBadge [6] system and incorporating it into the blockchain, Educoin will be able to authenticate achievement. This is when learning becomes something more than just learning; the more you learn, the more you earn. Seeing that idea through to completion, each block of Educoin could represent one hour of learning in a particular academic subject. Part of what makes Educoin so unique is that these achievements don't need to take place in a traditional institution. It can be done with skilled individuals or through open communities.

In the beginning, the Educoin team will create their own curriculum. To accomplish this, Educoin has created a strategic partnership with a leading educational company. All profits generated by any curriculum written by the Educoin team will be redistributed back into the Educoin community. After we have a large enough user base, we will open up the curriculum

base to Educoin Certified Curriculum creator. This will be curriculum written by an academic, a master in their field, or a thought leader of some type. For now, authors are able to keep 99% of the profits generated from sales of their curriculum.

6. Conclusion

We are proud to announce the updated Educoin! We have a new algo, a new wallet, and have lowered the total coin supply. Educoin received a complete makeover, developed a powerful partnership with a leading educational company and got some much needed TLC.

Throw in a dedicated development team and we believe Educoin will usher in a new age in blockchain education. The future of Educoin is bright, however it can't happen without your participation. As education continues to advance alongside technology, the opportunities for growth will continue to present themselves. We encourage each and every one of our users to join our slack channel, follow us on social media and share their thoughts. Together, we can write the curriculum of the future.

7. Works Cited

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