



mediacoin

Whitepaper

MediaCoin Executive Summary

MediaCoin is the 1st platform to integrate military grade cryptography methods to keep content safe. Musicians, artists and other content creators will be able to publish video, audio or streaming media to our secure platform; at which time it would be locked under high encryption until specific criteria is met. MediaCoin is aiming to change the way the world views security and trust; we also find it paramount to bring power back to the creators, artists and authors of distributed content.

Think of it as blockchain and Bitcoin for security of content. We encrypt the data and provide online key exchanges using blockchain cryptography. For a user to view content you have created, they would need the keys for this particular file, similar to how Bitcoin works. MediaCoin would offer this secure platform not only for the publishing of your content, but distribution and payments as well.

Ensuring developers of content are the beneficiary of their hard work and talent is our top priority. Artists and content creators will no longer be exploited due to the inability of distributors to properly secure their content. An essential piece of this success is making sure the artist has total control of their work, including the amount that they would like to charge to the user. MediaCoin's innovative platform is crucial to the end of piracy and bootlegging creative digital work on the web, and the distribution of payments to and from the appropriate parties.

MediaCoin will develop into a multitude of projects, deployed in stages, that will undoubtedly revolutionize the world we live in. Through our progression we will transfer from a centralized platform to a decentralized network with blockchain. In this phase, users that run as a node for the network will be compensated for their contribution, similar to miners on the Bitcoin network today. MediaCoin will offer additional value by becoming an ISP with FCC permits; this will allow individual users ability to sell their excess data, to those willing to pay for it, within their geographic proximity.

During this processes, MediaCoin will become a utility token with a dedicated purpose previously not available for the digital content creator and the end user. Our coin and our company stand for honesty, integrity, innovation and an unwavering dedication to security.

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MediaCoin White Paper

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(In order to not violate patent applications in progress, some details and descriptions are omitted.)

Market Analysis

Online piracy is major real-world problem, one that is so prominent that a large portion of our population feels that accessing content for free is their right. The ease and accessibility of the internet has made this so rampant that 95% of music that is downloaded online is done so illegally.¹ The effects that piracy is having on the economy is astronomical; the United States alone is losing between \$200 and \$250 billion annually and has experienced the loss of 750,000 jobs due to the online stealing of content.² Yet, content handlers like Spotify, YouTube, and SoundCloud have consciously chosen to continue operating in a way that does not protect their client's content from piracy -- it is easily downloaded, and shared using browser plugins.

With more than 146 million visitors to websites hosting pirated content daily,³ it seems that creators and producers of copyrighted material have lost the battle of being able to protect their work and worth. At MediaCoin, we disagree; the technology is here to provide solutions to these artists and we will deploy it. Our platform will provide piracy-proof, military grade encryption techniques using cryptography for the safe distribution of intellectual property such as: music, video and printed content.

Many distribution services have emerged to make access to legal content more convenient, however with many of these platforms users are forced into a blanket subscription and are paying for content that is not applicable to their viewing or listening preferences. MediaCoin realizes that users want to make their own choices about what content to consume and would prefer an ala carte experience where they can pick and choose the music, video, podcast, and print media that they want, and pay for it accordingly.

Value Proposition

Security - MediaCoin will provide content security throughout the consumer playback experience using blockchain cryptography. When we receive uploaded data from an artist, our platform will provide content encryption services to secure the content; interaction then takes place with the blockchain to administer transmission, verification and secure delivery of metadata information.

Our website platform will be used as an intermediary to catalog the content we receive and display it for users, however to be able to decrypt and view the materials an online key is needed. This key is provided by MediaCoin to the user once compensation to the artist has been made; this process is handled directly through the blockchain for security, accuracy, and instant processing. MediaCoin encourages and will compensate distribution of encrypted media across the internet in Phase 2 (discussed later in this document).

¹ <https://www.go-gulf.com/blog/online-piracy/>

² <http://freakonomics.com/2012/01/12/how-much-do-music-and-movie-piracy-really-hurt-the-u-s-economy/>

³ <https://www.go-gulf.com/blog/online-piracy/>

Micropayment - All transactions will be processed in local currencies, with the internal storage priced in tokens with 18 decimal places. Settlement will occur on the blockchain and users can transact with each other directly. Our offer includes payment processing for video, music, website content, software and generic data.

Media Value - As more and more content is available to users, the value of the network will grow. With our secure content offer, we will be able to license content that is inaccessible to other online platforms. Network growth will be fostered further with fans requesting exclusive content and creative freedom.

Smart Licensing - We will ensure distribution rights can be executed via smart contracts, allowing the content owner to dictate specific licensing terms. A content owner could decide to do a world-wide distribution, allow single play or unlimited content playback, or a number of other business rules which have in the past been negotiated on an individual basis. Initially, our platform will be designed for the consumer market, but will offer additional applications in retail, wholesale, and enterprise distribution.

Referrals and Relationships - Prior relationships for referrals, music labels, publishing partnerships, creative licensing, promotional partners and more will be respected with artist payout funds. Automatic splitting between songwriters and singers can be made through our payment network. Writers and bloggers can earn direct commission based on pay-wall publishing revenue.

Artist Benefits

Previously artists have been forced to 'partner' with large content handlers who provide unfair licensing, delayed payments and are negligent in the security of their content. MediaCoin understands that content is more than just a file to an artist and will provide a better and successful alternative. Listening and collaborating with artists and creators ensures we can create a 'true partnership' that benefits everybody. Creators of content will be able to choose what they want to publish, how much they want to sell their content for, as well as how they you like to license it to consumers: pay-per-play or a one-time fee.

Content creators will dictate their own business model, one that is right for them! MediaCoin offers exclusive and non-exclusive content management, worldwide commercial licensing and copyright enforcement options, as well as a zero registration fee and zero royalty platform. Artists are free to set their own pricing and receive 100% of the revenue from the purchase without any 'middleman' reaping the rewards, our technology will simply enforce access through our secure encryption platform. MediaCoin offers immediate payment processing and distribution direct to our artists; we will not even charge you for advertising....in some cases we may even pay for it ourselves.

User Benefits

Polling shows that '70% of online users find nothing wrong with online piracy'⁴ leaving the users that take legitimate routes to acquire product paying higher prices. A 'piracy tax' is commonly included into this purchase price of new material to help account for the losses caused by illegally obtained content. On a platform that forces all users to legitimately purchase content, we can drastically lower the cost required for an artist to make a fair profit; in turn significantly lower all costs involved including the purchase price.

This type of fair distribution model will allow MediaCoin to be the price leader in ad-free content delivery. Currently, the market's best offer is overpriced subscription based platforms that typically do not meet all customer needs. Consumers typically overpay for these services and are either not provided with all the content they want, or too much of the content they don't want. With MediaCoin's pay-per-play system, we

⁴ <https://www.techdirt.com/articles/20110228/23515813305/new-study-70-people-find-piracy-socially-acceptable.shtml>

can help optimize the user's budget by only charging what they actually consume, at a rate decided by the artist, not us.

Internet users in the United States are subject to Net 'Neutrality' that allows Internet Service Providers (ISP) to manipulate search engine results and even change the content of published work. Our advanced cryptography will allow content to be delivered to users that has been verified through a system of redundancies from multiple sources, thus allowing it to be unlocked and viewed without interference or altercation. The MediaCoin platform will be a magnet for licensing and commissioning premium quality content that artists aren't willing to submit to other networks in fear of piracy or altercation. This will provide our users a wide range of original content that isn't viewable elsewhere.

MediaCoin believes that the user should have total control of the content they view and respects individual preferences. All content will be reviewed and flagged with specific tags to describe the content, allowing users to 'opt-in' or 'opt-out' of which type of material they would like to obtain. This will allow users that have religious, political, cultural, lifestyle, or moral disposition preferences to only view content relevant to them. We also understand that what is legal in one jurisdiction may not be in another, therefore we also offer regional restrictions that can also be implemented for users to be compliant with local laws.

An integration with wi-fi routers and portability between devices will create a network that can be accessed from anywhere with internet, at anytime. This will give MediaCoin the ability to reach even the most undeveloped areas in the world introducing the option of exchanging data in a safe and secure format. Coupled with data tunneling, users with excess data in these area will also have the option to sell or give their data back to the network.

Enterprise Benefits

MediaCoin's ability to provide secure, functional and controlled content access allows for vast opportunities outside of the media service industry. Enterprise clients can be categorized as 'content controllers' just the same as a musician or author can, thus providing them with full and direct access to their content with a unique approach. We recognize that every Enterprise has particular situations and/or needs and will offer customizable service options to these clients. MediaCoin will offer premium services that allows Enterprises to select specific target groups to view content based on location, identity, date and time. Within these functions, there will many many variables to choose from including: duration of time spent viewing material, amount of views you wish to allow and transmitting information sent on a need-to-know basis. This will allow our clients to send data anywhere in the world using our military grade encryption, with the ability to keep it secure until created conditions are met. Central auditing and deniability are both available and supported security models within this platform; transmission can be sent with and without trace or transaction.

We have identified opportunities throughout multiple industries that MediaCoin could provide solutions for.

Corporate training and online learning : To date, over 75% of United States companies offer online training to improve their employees personal development, yet almost half of the total number of training hours are still being delivered by an instructor, in a classroom setting.⁵ We would have to assume, that this is attributed to the access of proprietary information that they do not want to be made public. Mediacoins secure delivery platform can ensure that mandatory training remain encrypted until the criterias are met, thus preventing repeated copies being made and pirating to the internet for illegal download.

⁵ <https://elearningindustry.com/elearning-statistics-and-facts-for-2015>

Theater and Movie Production: From conception to completion, a film production comes into contact with a multitude of different players and countless opportunities to pirate materials. Companies often employ expensive security audit teams to help prevent leaks, however when Google receives 2.2 million piracy takedown request everyday⁶ you can be assured that valuable content is still being stolen and broadcasted over the internet.

Medical Records: The health industry is still communicating with outdated technologies such as the fax machine; the reason: it's the only system besides the manual transfer of documents that allows the transmission of content while staying HIPAA compliant. MediaCoin can revolutionize this process by encrypting sensitive files and transmitting the data to the entitled party through the accessibility of the internet meeting compliance guidelines. This process can be completed without expensive software licensing and technology upgrades. Having access to information in real time can not only save money, but also and most importantly, lives.

MediaCoin Network

The MediaCoin network will grow in stages, incorporating the features listed below as they are developed:

Distributed App (DApp)

MediaCoin selects between side channel and blockchain for the purposes of speed and functionality during the transfer of tokens. Media decryption keys are delivered to blockchain addresses by browser plugin.

Peer to Peer (P2P)

Data is hosted on MediaCoin's central servers, or by members who are paid a delivery fee for data. P2P exchanges allow the participants of the market to trade directly with each other without a third party to process the trade.

Advantages of P2P exchanges include:

- *Transaction censorship resistance.* Regular cryptocurrency exchanges are ran by people making them vulnerable; they may also be exploited by governments imposing regulatory restrictions. P2P exchanges are practically invulnerable to government interference, because they don't have any central point of authority which could be coerced. In the event that some parts are forced to cease their operations, the rest of the system remains unaffected.
- *Cheap operations.* P2P exchanges are run by software, so there's little to no corporate overhead leading to very small fees, if any, to users.
- *Privacy.* Governments cannot impose those regulations on P2P exchanges, which means that trades can be conducted in a much more private manner.
- *Security.* P2P exchanges connect traders, allowing them to conduct deals directly. Not having to entrust your coins to a third party makes the process much safer.

Multiple devices

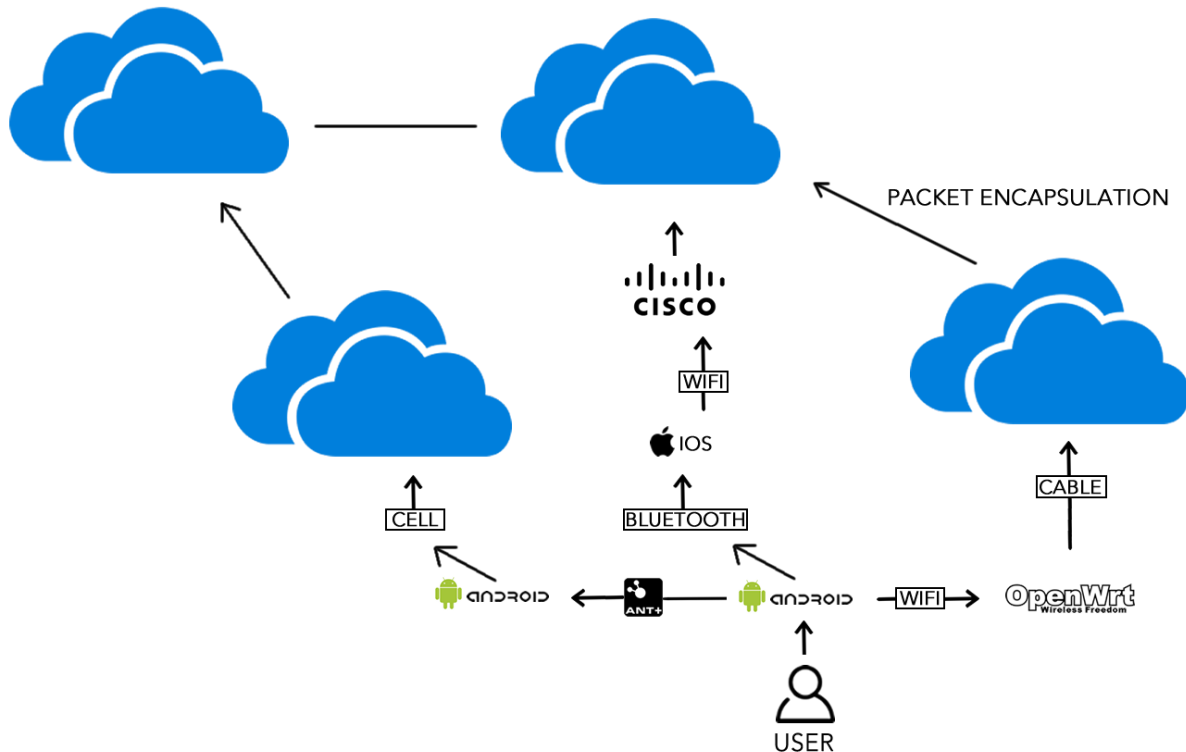
Mobile apps are developed (Android and iOS) for viewing encrypted content, as well as sharing and routing purposes.

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<http://www.businessinsider.com/google-2-million-daily-piracy-takedown-requests-transparency-report-copyright-2015-11?r=UK&IR=T>

Mesh network

Every connected device will have the option of sharing, hosting, relaying or requesting data. It is a type of network topology in which a device (node) transmits its own data as well as serves as a relay for other nodes. Routers are used to provide the best and most efficient data path for effective communication. In the event of a hardware failure, many routes are available to continue the network communication process.



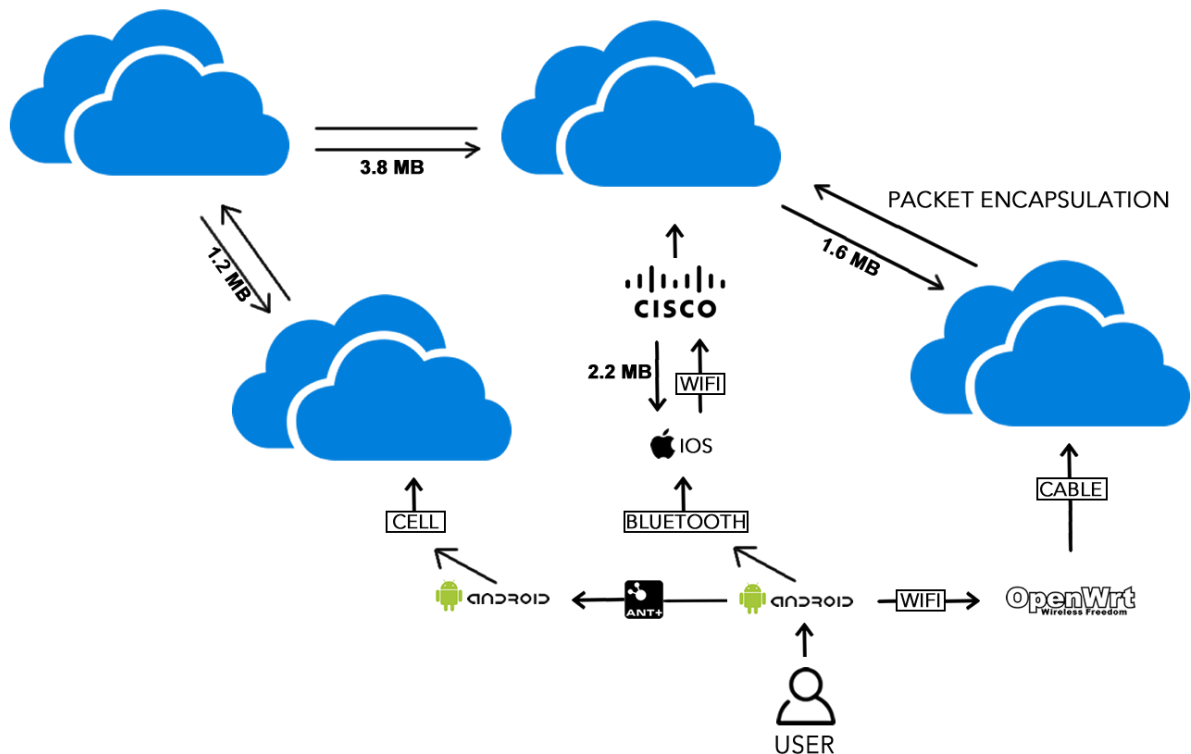
Internet-of-things

Although there is no universal definition, the concept details the interaction between devices within your network. Extending computing capability and network connectivity to objects, sensors and everyday items that are not normally considered computers allows devices to generate, exchange and consume data with minimal human intervention.

Internet of Things (IoT) implementations use different technical communications models, each with its own characteristics. Four common communication models described by the Internet Architecture Board include: *Device-to-Device*, *Device-to-Cloud*, *Device-to-Gateway*, and *Back-End Data-Sharing*. These models highlight the flexibility in the way that IoT devices can connect and provide value to the user.

ISP Services

MediaCoin will use a variety of wireless technologies and licensed bandwidth to provide mobile and rural internet access. Internet users in the United States have been subject to a change of Net Neutrality; currently the lack of regulations allows Internet Service Providers (ISP) to manipulate search engine and even change the content of published works. MediaCoin's technology will put an end to this practice; with the use of cryptography we will be able to verify and deliver content that has been checked from multiple sources and unpacked without interference or alteration.



**5 MB
REQUEST DELIVERED**

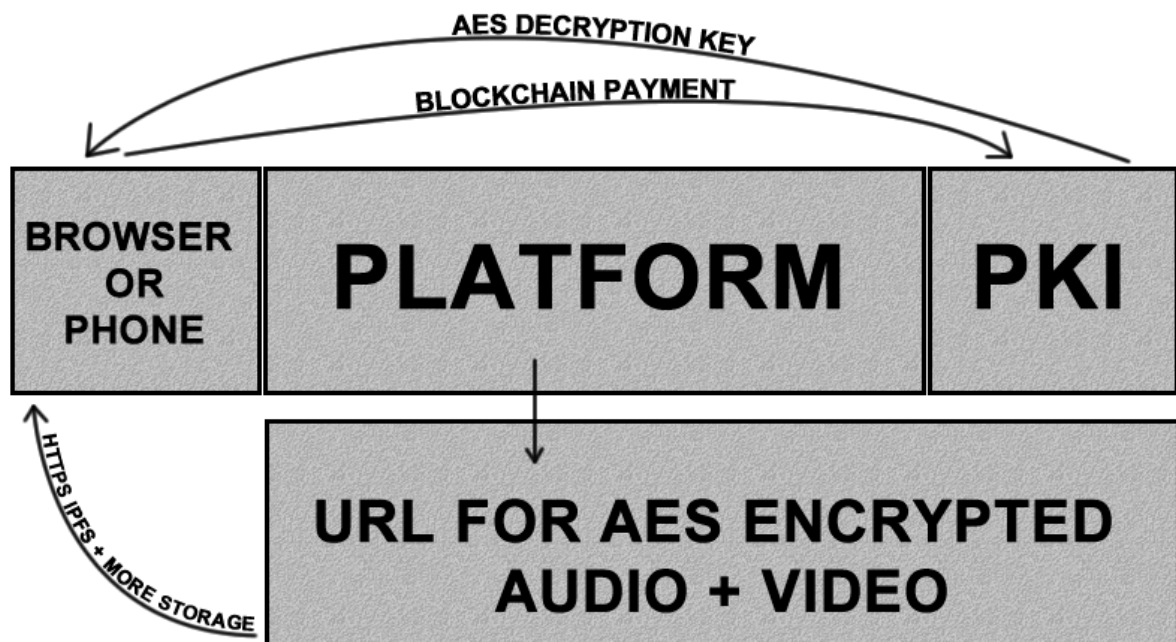
Encrypted Content Delivery

For the first time in the history of the World Wide Web, users have begun to adopt public keys accessible by web sites. These public keys are tied to addresses that can be verified and used as a means of exchange value through cryptocurrency, blockchain and even more relevant, tokens within a blockchain.

Deficiencies have been discovered within the Public Key Infrastructure (PKI), with the majority of issues occurring with client authentication. These issues leave the infrastructure vulnerable to "Man in the Middle" attacks where interception of private communication can happen. The implementation of users wallets has been a major advancement in the client authentication processes, as these plug-ins have the capability to verify transactions with the client, and can be submitted to the blockchain preventing double spending. Within a data silo, micro-transactions can be performed and tracked with regular bulk submission upon externality

referencing events. Properly triggered, the double spend is still prevented and transactional costs can be aggregated and minimized in the same manner as ACH within the banking networks.

We believe that tokens are an ideal way to handle internal accounting specific to a particular data silo and hold the perfect mixture of trust in a trust-less system. Our MediaCoin Token will leverage advances in the PKI, including the user adoption of public key cryptography in wallets, a network token representing value, military grade encryption decryption in secure browser sandboxes, GPU acceleration of memory intensive encryption, protocol enhancements to data tunneling (TOR), peer discovery (DHT) and file delivery (IPFS).



Network Value

At the current time, users can access a URL address and make unlimited copies of the content they view, and even though this process violates copyright infringement laws and deprives the artist the opportunity to monetize their work it seem impossible to cease. MediaCoin is the solution to end this piracy; we have adapted a security model to ensure encrypted files are delivered efficiently and decryption keys are sold into a secure sandbox.

MediaCoin's primary focus is video and audio playback, however the potential entrance into live streaming and the client software market are possibilities that we will continue to pursue. On our media platform, all content will be catalogued, reviewed for proper copyright licensing, sampled for quality and ultimately encrypted for safety. Uploaders of content or 'artists' will choose the price of their content and how they would like their distribute their usage rights such as a pay-per-play or a pay-for-sessions; they will also receive 100% of the purchase price (however, a minimum of 10% will be paid as referrals to the playlist creator, artist referral, user referral, and user referral referrer.) As we scale larger and artists want to sign with us

exclusively, we will be able to offer the premium services utilizing our proprietary technology such as commercial licensing as a direct sale and further copyright protection options.

The value of the network is scaled exponentially based upon the number of participants, or 'nodes.' We have implemented a business model that recognizes that participants are not a single case node, but users participating together. Participants will be rewarded for their common behaviors within the network; as more data mapping becomes available we will continue to implement other practices to reward such behavior. MediaCoin will not focus on advertising itself, but understands that it is necessary to attract unique content and funding the development of new content into our network. Adding content to our platform increases the size and value of MediaCoin's network by adding nodes.

Freemium

MediaCoin users will have the opportunity to earn token(s) without making payments by 'opting in' to certain functions within our platform. The primary method we will advocate for earning tokens will be through our referral system; user can refer artists to our platform as well as songs, playlists, networks and commercial licenses for benefit. MediaCoin will also providing rewards for 'opt-in' advertising and incentivized behavior such as: mobile app installation, playing sponsored games, taking surveys and participating in promotions. Tokens procured through our Freemium consumption model will not be segregated; they can be spent identically to purchased tokens, at the same rates. We also intend to explore the option of having a hidden 'earn-per-click model' to expand our network.

Token Value

As the pervasiveness of cryptocurrency grows, more goods and services will be bought and sold with digital currency resulting in an increase of liquidity. MediaCoin's business model is a revolutionary approach that is built around providing a \$0 artist fee combined with 100% artist payout network using cryptocurrency. As we monetize, MediaCoin is utilizing 'tokens' as the traded current of value; these tokens are representations of value and will be available to be purchased or sold using cryptocurrency and major currencies. We fully expect to offer ETH and ETC tokens on their respective exchanges until we implement and deploy our own blockchain. At this time, tokens will be migrated to the Quantum Safe blockchain and new sales will be exclusive to the ETC token; repurchases will still be available for users holding ETH tokens until they are entirely phased out. The majority of token based platforms regularly destroy their tokens and mint new ones as a way to add value to their network. MediaCoin is offering a different approach; we will not mint new tokens, but only destroy or 'burn' tokens. It is highly unlikely that regulations are passed that severely impact digital currency, however if this happens, MediaCoin is prepared to offer an 'in-house' exchange and separate the value of the token from cryptocurrency.

Our website has the capability to handle the buying and selling of tokens direct to users at fair and reasonable costs with approximately 20% increase above the Market Rate on Exchange to purchase, and 10% below Market Rate to withdraw Tokens as currency. To partake in this process of purchasing, a user would sign up for a Cryptocurrency Exchange, providing personal identification equivalent to opening a bank account, purchase Ethereum (ETH) or Ethereum Classic (ETC), withdraw funds to a Wallet and finally interact with a Smart Contract to receive Tokens.

Market Segment Analysis

Market Segment	Description	Market Size US	Market Size Globally	Market Capitalization	Opportunity
Music Pay-per-use	Online purchase of music track or album.	30 million	100 million	\$7.8 billion	Music streaming equals 50% of music industry & rising value gap of returning money to music industry
Video Pay-per-view (VoD)	Online purchase of movie or event.	221 million		\$19.8 billion	\$27.6 billion by 2022.
Online University Classes	College courses taken online	6 million students		7.2 billion	Majority of services available are throughout the US; many untouched markets
Continuing Education (Online)	Lifelong learning beyond degree	92 million adult users			Licensing boards, certifying agencies require CE credits annually
Online Lessons (Personal Development)	Non-degree courses taken online			Total self improvement market value \$9.9 Billion	
Corporate E-Learning	Online professional development	27.9+ million small business, 18,500 firms with 500+ employees		51.3 billion	77% of U.S. organizations offer web-based preparing.
Corporate M-Learning	Mobile professional development				\$37.6 billion by 2020.
Medical Record Sharing	Communication outside providers software network	5534 hospitals; 18 million healthcare workers	19,217 hospitals; 43 million healthcare workers	13.64 billion	22 billion by 2021

Encryption services (B-B)	Provide secure encryption services for Enterprises			3.87 billion	12.96 billion by 2022
MVNO cell data	Mobile Virtual Network Operator	36 million	300 million by 2020		MVNO's are becoming popular in many emerging markets; Regulation is opening up new markets for MVNO activity and encouraging more market entry
Musician Services	Business assistance for Artists.				91% of all artists are undiscovered
Secure E-Book	Books downloaded online	4.8 billion downloaded E-books		\$11.86 Billion in 2018.	17% of all E-Books are pirated: 315 million estimated in losses
Meta ISP	Use nearby shared data			\$104 billion	Broadband expansion in rural markets
Live Streaming	Uploading and watch live content		100M internet users daily	\$30.29 billion	Online video will be responsible for $\frac{4}{5}$ of global Internet traffic by 2019.

** MediaCoin is still researching many of these markets for more information, this may result is some areas of this chart being left blank

MediaCoin Network Phases

The initial mode of monetization for MediaCoin will be the use and delivery of content. Both Blockchain "Gas", the internal pricing or "execution fee" that senders of transactions need to pay for every operation made on an Ethereum blockchain and data transfer fees will be assessed and included in each total. Monetization will occur as a result of these different phases.

Phase 1 Network:

Music, Movies, TV, Webcam and Streaming. At the moment, we are acquiring licenses for music, movie, and TV shows to ensure a full spectrum of content. Our users will use MediaCoin tokens to make content purchases. The content owner can keeps these micropayments in the MediaCoin currency or convert it to fiat.

Our users will also be able to use our secure webcam services. They will be able to stream licensed media for personal preference and they can also use the streaming capacity of our platform for webcam communications, similar to platforms like Skype or Google Hangout.

Phase 2 Network:

File transfer network payments and Paywall services. Our secure file transfer of network payments and paywall services allow for efficient and secure resources for users to transfer files. Our paywall services will not only allow users to preview content but will allow content creators the opportunity to monetize their content as users will have to pay a fee to view the content in full.

Phase 3 Network:

Shareware distribution, payment and licensing, Bandwidth sharing between devices (share Cellular data for pay over bluetooth, etc), with Tunneling and relays (Tor style but without privacy focus). We will ensure that there is sufficient bandwidth sharing between devices, such as media sharing over cellular networks, to provide an optimal experience while using our networks. Using data will also allow users to pay over bluetooth, a significant step in the convenience of payment. Our shareware distribution allows for users to view a trial version of content before purchasing the full version. Content Creators will have the opportunity to utilize our Shareware software to both license and accept cryptocurrency payments.

Phase 4 Network:

Bandwidth and relay mapping, discovery and announce (with gamification examples), private transactions between users, decentralization using blockchain to replace token and Quantum Safe Cryptography. In Phase 4 we will encourage additional catalogs (apps, websites, etc) to exist, interacting with a decentralized and fully distributed version of our platform. Our network will allow our users the ability to optimize their bandwidth and relay mapping. Artist will be able to announce their additions to the MediaCoin library and because of our search optimization algorithms in place, our content consumers will be able to easily locate and purchase content. We have a secured platform for private transaction, primarily focusing on the decentralization of blockchains to replace tokens and our secure Quantum Safe Cryptography will allow for users to securely purchase streaming media.

MediaCoin Tokens

QMCT and QMCTe are the utility tokens used within the MediaCoin platform; only with these tokens can you access the vast library of encrypted content within the MediaCoin catalog. You can purchase QMCT with Ethereum Classic (ETC) and QMCTe with Ethereum (ETH). There are 1 billion QMCT and 1 billion QMCTe in circulation and the tokens are likely to be traded on different exchanges, with the majority of QMCT on USD based exchanges and QMCTe on Tether (aka USDT) exchanges.

Both the QMCT and QMCTe tokens can be used to view the same content. ClassicMask by Dexaran on Chrome and Chromium can handle both tokens and both networks simultaneously but the Firefox instructions are difficult. MetaMask is only available on the ETH network, but has convenient purchase instructions. MyEtherWallet.com are Javascript routines available on mobile devices and all Javascript enabled browsers.

QuantumCoin

While a distributed application has significant advantages, we believe that most problems with transactional processing can be solved on different platforms by releasing a blockchain based on our design. This will also allow the primary functions of MediaCoin to be converted into a blockchain, and the value network will persist as long as clients still run the blockchain. The new blockchain will be created as QuantumCoin; when the QuantumCoin blockchain is pre-released, MediaCoin tokens can be used to purchase QuantumCoin before the

official launch. MediaCoin tokens will be the main exchange supported shifting value from Bitcoin and other blockchains to QuantumCoin.

Referrals and Payments

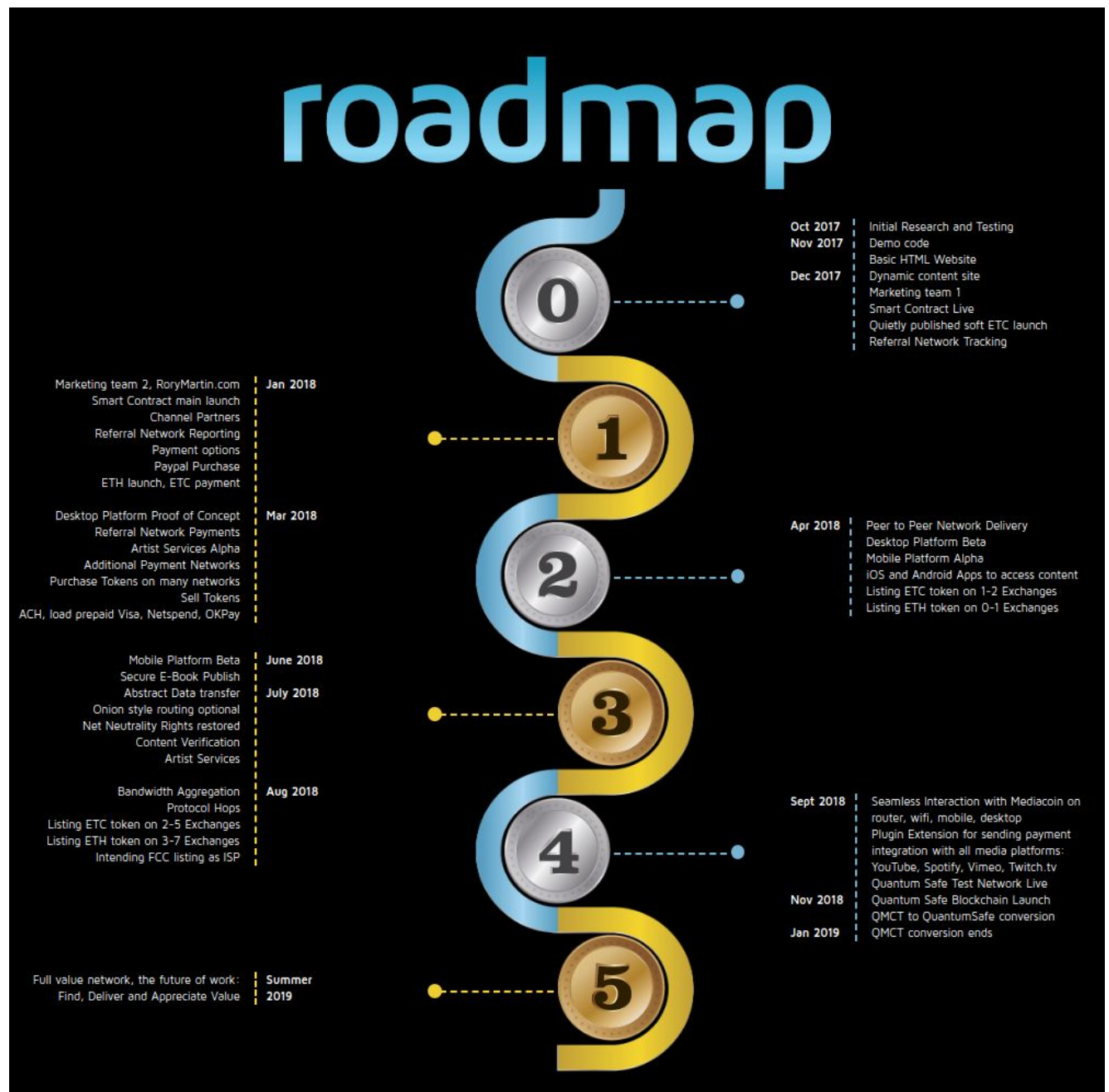
As a fundamental design principle, we think that being rewarded in minor ways for sharing valued content creates additional value. If the payments are too high, then referrals become advertisements instead of personal recommendations of value. Over-compensated referral links end up becoming another form of noise, polluting our social media and social engagement. On the other hand, sharing something we value contributes to bringing values to others.

MediaCoin's referral systems are built into most content links, with the goal of making all referrals paid (details and specific numbers are available in [Appendix A](#)). Every industry has their own existing rules which we need to respect, but we hope our referral model will be adopted across all industries eventually. Enterprise customers, content publishers, large media licenses and other contracts will always offer a referral payment even though these are business relationships instead of links.

Our payment network is based on the QMCT and QMCTe media tokens and the QuantumCoin blockchain, which provides access to content and additional functionality. All prices will be based on local currency, with a fixed rate set by the artist. The payable balance in tokens will not change over time without activity, however the QMCT, QMCTe and QuantumCoin tokens may have a different value over time in the local currency. Stable prices and liquidity are recognized as an important component of any business; we believe that blockchain technology requires ease of use, additional maturity and stability allowing us to be successfully adopted as a payment solution for businesses. Included in our business model is our effort to provide easy access to funds, easy adoption by users, no to low fees (on-chain and off-chain) and stability to users and content creators.

Payment network processing to and from local currency is one of our most important goals. Payment strategies will be adopted based on the popular methods available in each area. RecargaPay is popular in Brazil; Paypal is popular in the USA; Qiwi, Yandex and other payments are popular in Russia; Lydia and Orange in France; Alipay and WeChat Pay are popular in China; and many more. We will also support direct bank transfers by SWIFT, SEPA and ACH. In all jurisdictions we will attempt to partner with ATM networks and withdrawal services. MediaCoin will maintain balances in multiple currencies worldwide permitting us to make small payments by local postal and money order services. We expect to hold significantly more than minimum required balances in multiple currencies to exceed regulatory standards for payment processing, even though we will not attempt to be a payment processor. Our business model requires our direct payments to be more convenient than selling our tokens or coins on exchanges and withdrawing from the exchange.

Roadmap



Promotions

Wallet Promotion

As new users find content they want to enjoy, there will be a browser plugin or mobile app installation to access the secured content; performing the required installation will also create a wallet on the Ethereum blockchain. Completing this process, or linking an existing wallet by browser plugin, will reward the user with some of our tokens as an initial balance. This balance should be enough to view the content, allowing for a free method of accessing desired content.

Funding Faucets

Some websites offer tokens or coins upon request, these are normally called “faucets” where a large reserve of tokens or coins are held. Distribution of MediaCoin tokens will be available from existing faucet programs as a promotion. Potential faucet partners have been identified but none are ready for announcement.

Bounty System

MediaCoin will use both a traditional (bug hunting, security reporting) bounty system as well as a social media promotional strategy. Social media bounties will be first published in Discord, then on the website. Many companies (Paypal and Ebay among them) offer cash rewards for the first report of bugs and security holes. MediaCoin will offer a traditional bug hunting bounty system, with the reward increasing for specific reporting, validation of bugs, security advisories (in our libraries or our code) and bonuses for adhering to disclosure guidelines. Our systems are internally and externally audited. Some systems will have source code available to the public (because it is more secure), and other systems will have limited access to source code (because it is more secure.) Secure software is of critical importance to the developers, but this is an ongoing process and not a feature for a single version. (In programmer terms, “continuous integration with forward and regression tested security validation processes.”)

Long term software development will be awarded through Bounty tokens. Specific programming projects with a clearly defined scope and unit testing will be offered to the public using the bounty program. Additional rewards will be available to reach specific goals, like 100% unit test coverage on codebase.

MediaCoin Team



Chief Technology Officer and Founder

Ian Smith aka rorschachrev

A prominent blockchain expert and lead developer for MediaCoin Inc, Ian is at the head of a encryption project incorporating military-grade cryptography and blockchain authentication methods to allow secure content publication and streamline distribution, while preventing piracy or theft of content. Specializing in complex problem-solving in software architecture, data forensics, cross-platform integration, and automation, Ian has a high level of knowledge and experience in Network and OS Security, Systems Theory, and project leadership. A small list of Ian's achievements include: teaching Linux at NASA, writing partition tables in hexadecimal for partition recovery, mapping Living Systems to software models, Forex arbitrage network, fractal market predictions, and writing data extractors for 1980's packed binary dental records.

[Ian Smith LinkedIn](#)



Sales and Marketing Manager

Andrew Land

With over 10 years of sales experience for a family owned promotional product company, Andrew Land quickly developed the high level communication skills necessary for product promotion and professional networking needed in today's fast paced technology environment. Andrew has gained marketing and sales experience starting in 2005 with Landmark Promotions, has experience soliciting legal services, and has consulted many companies and individuals on regulatory compliance in the United States. As one of the initial employees of MediaCoin, Andrew has performed a variety of duties outside of sales, marketing, and legal compliance which has prepared him to overcome any obstacles he might encounter in the software and cryptocurrency space.

[Andrew Land LinkedIn](#)



UI and Javascript Developer

Jeff Lam Tian Hung aka jl

Founder and Director of Teleo.co, a project management and team collaboration tool for small businesses. Previously Lead Sales Engineer in Asia for Symphony Communication Services, a secure collaboration and workflow technology company. He currently provides enterprise data management and integration solutions to banks in Singapore's Financial District. Jeff has served in a variety of roles including engineering, product design, marketing, and sales.

[Jeff Lam Tian Hung LinkedIn](#)



Community Director

Garrett Meade

A 2015 graduate, Garrett earned his bachelor's degree from Memphis University in business administration, while majoring in Economics. From bussing tables to managing a boutique catering company, Garrett has served in a variety of roles in the hospitality industry for over ten years, including management at Big 5 Sporting Goods. Garrett made a transition into marketing where he was a brand ambassador for Megabus.com, a multimillion dollar transportation corporation. Garrett's passion for economics and technology make him a great fit for MediaCoin.

[Garrett Meade LinkedIn](#)



Marketing and Graphic Designer

Brian Shea

Brian Shea is a graphic artist who, having spent the majority of his life on the Hawaiian islands, he prides himself on having a very unique style of creativity. Brian has studied illustration and graphic design at the University of Hawaii and Santa Rosa College respectively. Along with his graphic design work, Brian is also very skilled in the fields of customer relations and hospitality having worked at multiple hotels in Hawaii during his studies. Brian enjoys illustrating his own comics, as well as painting with acrylics. Brian has a unique ability to learn quickly, and is able to apply his artistic talents to almost any task assigned to him.

[Brian Shea LinkedIn](#)



Junior Developer

Gerald Adamson

A combat veteran with over 12 years experience in the U.S. Army, and a Bachelor's Degree from Idaho State University in Philosophy and Literature, Gerald has developed a love for software development, and continues his studies in Gaming, Interactive Media, and Mobile Technology at Boise State.

Gerald is an avid programmer, who has done freelance programming and website design for various customers, including a short film in Virtual Reality and websites for local businesses.

[Gerald Adamson LinkedIn](#)



Content Licensing Advisor

Nadine Krefetz

Nadine is focused on designing tomorrow's media experiences. She has been in the digital media space for many years and has worked on over-the-top TV delivery, enterprise content product development and other digital media projects. She has extensive experience managing projects and programs for a number of media companies and technology vendors involved with digital video. She's especially interested in helping media owners transition to using cryptography and blockchain technologies. She is also a contributing editor at Streaming Media Magazine and writes extensively on technologies that are impacting media today.

[Nadine Krefetz LinkedIn](#)



Business Development/Blockchain Enthusiast

Broden Staples

Broden thrives on understanding client business challenges and mobilizing teams and suggesting options to create valuable solutions that drive business results. Bringing over 15 years of B2B sales management from multiple industry's handling contracts valued in the millions. He has hands on experience with cryptocurrencies, blockchain and trading/programming in Forex markets. Broden currently resides in beautiful Gig harbor, Washington.

[Broden Staples LinkedIn](#)



Security Advisor

mstr_choc

MisterCh0c is a security passionate and professional. Previously developer, he's been working as a security consultant for over 2 years doing security assessments in a range of different environments (web, industrial control systems, IoT, mobile). He has contributed to several open source projects over the years and continues to do so.

Appendix A: Phases of Network Payments

Funding and Wallets

We intend to advertise content to get new members, instead of advertising the network itself. Initial plugin, wallet and account creation will be streamlined as much as possible and rewarded with an initial balance. The incentive for new wallet creation in tokens will decrease as the token value increases relative to US dollars.

There will be a bonus of 30% of our gross sales wallet balance (after token buys and transaction fees) for any user referral, which requires wallet activation. This activation bonus is earned by sharing the link on top of the website. In addition, the following percentages reflect additional payments:

10% Referral for Earnings (Based on advertising partners for Freemium accounts and incentives, but not DJ or duplication of other payments)

30% Deposits Referral (Based on our fee, not total amount. See [Fee Sharing Levels](#) for details.)

5% Withdrawals Referral (Based on our fee, not total amount. See [Fee Sharing Levels](#) for details.)

5% of all other MediaCoin earnings (Matching reward using same calculations as above)

If there is no referral, the initial balance is half the normal rate. Accounts inactive for 6+ months may have their referral payments folded up one layer, as a secondary anti-fraud method. We want to note that users who create a new account to only refer themselves will end up with the same total payment. Any policy changes would only be made after simulation and evaluation on the impact to the total network.

Phase 1 Network Payments

The income for our artists will focus upon these factors:

90% to the artist who has created and published the media

3% to the user who has referred the artist

3% to the user referral for the specific referrer

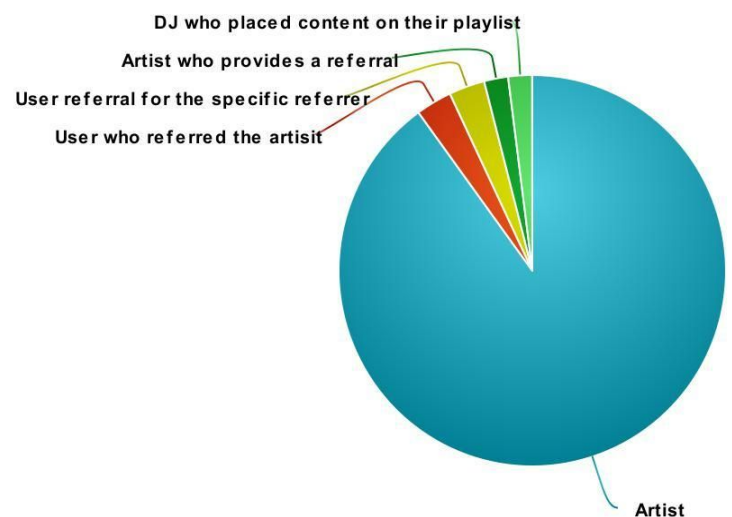
2% to an Artist who provides the referral

2% to the DJ who has placed the artists content on their playlist (or artist if not actual playlist)

If no referral, the unassigned percentage goes to advertising for more recruiting. This advertising becomes the referral partner. Untracked referrals (user deleted the referral code) get smaller sign up bonuses than tracked referrals.

In regards to derivative works, which includes speculative design and copyright varies by media type, we propose the following:

Original content artists will select their fee and any and all derivative works inherit their pricing from the original work. If there is proper attribution and use of 'in network' content, this reduces fees and increases pay. After the licensing costs are determined, the bonus is added to arrive at a total cost. Outside network fees that are not 'normative use' will have overestimated costs at launch, reduced to actual costs and



retroactively paid. Regionalization aggregates pre-agreement licensing, cost reduction and fair use will be explored per locality.

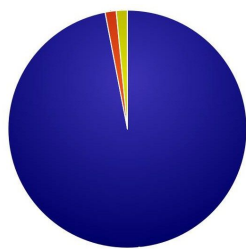
5-100% of normal fee, based on 'normative use' interpretation for each media type

10-30% bonus to editor (commentator, remixer, promoter, or other role)

4% bonus of editor Referral for artist

3% bonus of editor Referral for referral

3% bonus of editor playlist or link

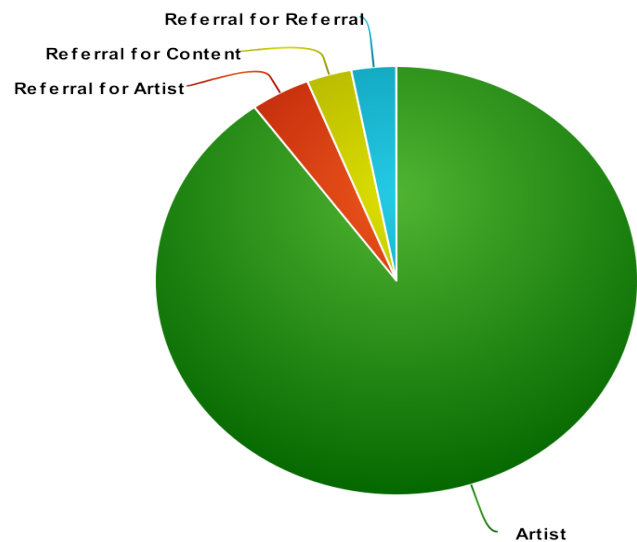


Any **Television, Anime, Movie show licensed** will show the following income:

97% rebate for prepayment

1.5% Referral for content

1.5% Referral for referrer



Any **Television, Anime, Movie show income published** will reflect the following income:

90% to the artist that published the media.

4% Referral for artist (Introduction of artist)

3% Referral for content (Link to content)

3% Referral for referral (Introduction of content referrer)

Every data transfer will have a delivery fee, based on storage, requests and bandwidth. The license key will be delivered after the data transfer fee is paid. Since all content is encrypted and licensed, sharing files for upload will be directly paid starting in Phase 2. A healthy network in Phase 1 will use prepayment for file storage and sharing.

Phase 1 Data Transfer

90% payment to content provider

5% Referral for content (DJ, outside link, reviews)

5% Transport Protocol Handler (supernode, DHT node, IPFS DHT, etc that supports mapping from request to delivery. Responsible for key delivery upon completion)

Phase 2 Data Payments

90% for file delivery, split per chunk of data.

5% Referral for content (DJ, outside link, reviews)

5% Transport Protocol Handler (supernode, DHT node, IPFS DHT, etc that supports mapping from request to delivery. Responsible for

key delivery upon completion) 5% Referral for content (DJ, outside link, reviews)

Gas Estimates

Initial Transaction costs ("Gas") are calculated by processor time, storage, and various factors using a specific quantitative metric. Phase 1 will, at minimum, rely upon direct costs for Gas payments. Aggregating transactions will lower costs, and urgent transactions will increase costs. Multiple techniques will be employed in Phase 2 to lower Gas costs for users and the network as a whole. Settlement on the blockchain will always incur "gas" costs, but blockchain settlement is not always required.

Pay-Wall Services

Many news and article sites require direct payment or an adblocker to access their content. Since our user base already has a browser plugin, very low costs, opt-in behaviors, and easy payment options, MediaCoin is positioned to act as a payment gateway for "pay per view" or "pay for access" services. While many of these services require a subscription, we can seamlessly function as an opt-in behavior system or token based payment method.

Phase 3 Data Payments

5% Referral for access (no pay for local discovery, pay for DApp mapping of access, etc.)

5% Transport Protocol Handler (exit Gateway Handler for request, may include DNS, bundling UDP in TCP, packing files, etc)

0-15% Traffic Tunneling per hop, by client request (0-3 session handler relay hops)

75-95% (by session hops) for network access, pay per MB transferred

Software Licensing

In general, software licensing is a more complex topic because of the multiple type of licenses that must be supported. The development of a secure software delivery platform is complicated since there must be deep integration within the software product. A purely superficial license key solution is easily bypassed through software disassembly. Office software, iPhone and Android apps, Shareware, MMORPG game titles, online console games and more will be supported. However, licensing agreements will often need to be established first. Subject to the terms of the content creator, we will share what is fiscally viable for download and promotion.

Phase 4 Network

Private transactions on Quantum Safe Blockchain

The creation of blockchain that is dedicated to a network is a significant step forward in the long term advancement of the network and tokens will be redeemed at market rates.

MediaCoin Tokens will be maintained and traded indefinitely. Moving operations into Blockchain ensures continuity of the network and immutable resistant to outside interference. Guidelines protecting users and artists should be well established, with multiple access points. Blockchain based publication creates further opportunities and more freedom in implementation.

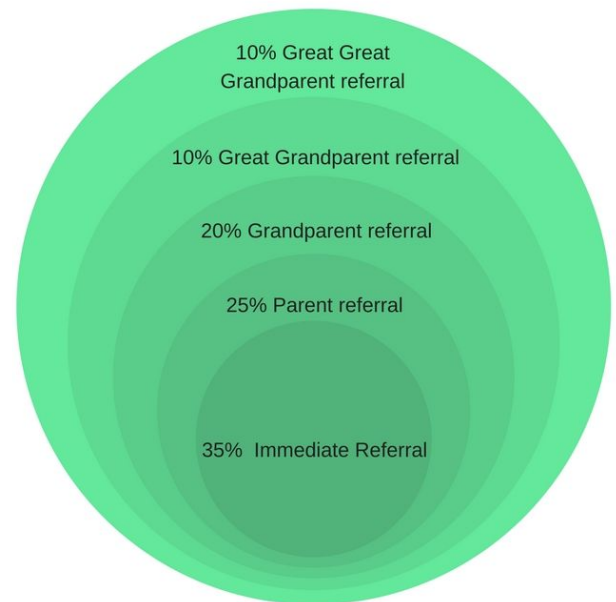
Proof of Work for network shares in GPU will be the bulk of the initial miner reward. The goal is to transition the entire network to collection and distribution of transaction fees without mining. Mining routines in GPU will mimic transactions with optimizations in mining software lowering transaction costs

Fee Sharing Levels

Fees for deposit and withdrawal are shared between multiple referrers. 15% of deposit and freemium fees and 5% of withdrawal fees earned (100% of this amount described below) by MediaCoin are shared across multiple levels of referral. The first level, immediate referrals, will earn 35% of the total fees paid. This is tracked by actual link clicking. Their parent is the second level paid 25%, their grandparent is the third level paid 20%, the great grandparent paid 10% and great great grandparent paid 10%.

1. 35% of fees for link clicks (Withdrawal fees, Deposit and Freemium fees, for users and artists.
2. 25% for their referrer, by link.
3. 20% for their referrer, by link.
4. 10% for their referrer, by link.
5. 10% for their referrer, by link.

Total amount of paid out fees = 100%. Total amount of fees earned for pay, as described above, are 15% of deposit and Freemium fee amounts and 5% of withdrawal fees earned. For example, if \$100 is deposited or earned by Freemium users, and the fee is 20% with 80% credit to the user. The earned fee is split 15% between



Appendix B: Quantum Safe Blockchain

Quantum Risk

Nov 10, 2017 IBM Announced their [50 qubit quantum computer](#). Sweden contributed \$1 billion in funding towards their development of a 100 qubit system. Unlike [D-Wave's 2000 qbit system](#) the IBM quantum computer is capable of performing Shor's algorithm, which is capable of solving Discrete Logarithms. This is a NP-complete problem, solved in polynomial (P) time using Quantum Fourier Transforms (QFT).

The main limitation of quantum computing is that problems must be solved "all at once" and can't be solved in pieces the way silicon transistors currently do large number math. The second limitation is decoherence, where the system falls apart before an answer has appeared. Thirdly, answers are probabilistic, with some noise and chance that a wrong or "no answer" will appear.

The current simulator and cloud computing offered by IBM uses a mixture of Python and their Qasm (Quantum assembler) language. (<https://quantumexperience.ng.bluemix.net/qx/experience>) The fundamental question on a system capable of solving Discrete logs and breaking All Modern Cryptography is mostly a question of "when" and not "if" it can happen. The underlying hardware used by IBM is nuclear magnetic resonance (NMR) machines, which are present in medical labs and university systems. Once the methods are figured, it is likely that many independent labs will be able to perform quantum calculations.

If some of this research is able to leap forward based on the D-Wave designs (even though Niobium magnetic method and the NMR method are much different) then a quantum computer to break most cryptography is likely within 1 to 3 years. As larger and larger qubit arrangements become common, more and more cryptography will be solvable by such a system. If the techniques pioneered by DWave are not applicable, then a 3-6 year time frame is more realistic.

Quantum Migration

After quantum computing, the "best solution" offered among the Bitcoin community so far is creating all transactions in pairs. The first transaction is a spend of bitcoin, and the second transaction moves to a new address to prevent a quantum computing attack against the public keys that were exposed. The "second best solution" is moving all bitcoin to a series of Central Authority Silos, which would store the balances in databases and have some sort of 2 or 3 factor authentication requirements, allowing registered users to safely store and spend their bitcoin. Neither practice would work with Ethereum, unless Smart Contracts were created without "owner" permissions and the authentication to the Smart Contracts do not involve modern public-private cryptography.

The most effective solution overall is an early migration. Quantum Safe Cryptography can be implemented now, and quantum safe blockchain can be developed within the next three to six months. The author has spent some time on this, attempting to create a smart contract system with privacy and quantum safe libraries. In the budget projections, money is allocated to mathematicians and researchers in order to ensure accuracy, design attacks, and countermeasures. It is presumed since blockchain can be upgraded, new algorithms will fix any inadequacy revealed in the future. However, this proposition is not entirely valid unless the address and balance calculations are backward and forwards compatible.

In Bitcoin:

- sec256k1 "private key" which is a point on an elliptical curve <https://en.bitcoin.it/wiki/Secp256k1>
- sec256k1 "public key" which are 2 numbers, related to the elliptical curve
- a SHA256 hash of the public key
- a RIPEMD160 hash of the SHA256 hash

In Ethereum:

- sec256k1 "private key" which is a point on an elliptical curve
- sec256k1 "public key" which are 2 numbers, related to the elliptical curve
- a SHA3.keccak256 hash of the public key, truncated to 160 bits (non-reversible, even if the tech existed)
- Contract addresses are SHA3.keccak256 of RLP(nonce+sender_address), truncated to 160 bits. There is no public or private key for contracts

This data cannot be altered and still maintain the private key access to funds, which essentially locks the address scheme in place since the address is based on the public key, and the public key is revealed in transactions. In other words, after exposure the funds are accessible to anyone or to no one. Bitcoin could continue after upgrading to prevent quantum attack, but upgrades to the protocol will leave old accounts vulnerable until they perform transactions under the new architecture.

If we use a token instead of a central authority, we have access to cross chain transfers on exchanges as well as blockchain to blockchain. To facilitate a transition to a quantum safe blockchain, we are creating a custom code to be used where users can "burn" tokens and receive quantum safe coins on the new chain. The "burn" to transfer mechanism will be left unimplemented until the quantum safe mechanism is in place, tested and then the contract "library" will be upgraded with the function. In the meantime, contract to contract transfers

are blocked by an implementation of Dexaran's ERC223 proposal (designed to prevent Ethereum loss). After migration upgrade, contract to contract will be permitted and tools will be made available making the process user friendly and will increase monetization.

Appendix C: Zero Sum Game

Cryptocurrency markets are a "Zero Sum Game" similar to stock equity markets. Every dollar 'earned' in cryptocurrency and equities trading comes from another trader's 'loss.' A healthy ecological system and a healthy market bear similarities as "Living Systems," as detailed by James G Miller in 1972. Cryptocurrency, especially as a fledgling market, must be intentional, cognizant and careful to obey the Natural Limits (Natural Capitalism) as the system grows. MediaCoin is focused on detailing the financial systems required to make cryptocurrency a sustainable system with lasting growth.

The main difference between the markets is the input and output to the whole system. Equities receive system input as funds from IRA, mutual funds (especially tax free profits as "passive foreign investment instruments") and indirectly through some option vestment plans and dividend payments to shareholders. Cryptocurrency has direct goods and infrastructure building, but both systems generally remove more value through fees than the direct investment in liquidity needs.

With Cryptocurrency as a Zero Sum Game, it is important that the output costs are minimized and the input income is greater than the output costs. Without a careful consideration of $\text{income} > \text{cost}$, then the resulting market is often referred to as a speculative bubble because it relies entirely on new investment to fuel the ongoing costs. When the investment input slows, returns diminish and large withdrawals at that stage will cause a speculative collapse. When income is greater than cost, the investment input is attempting to capture long term income with equity investment. For the health of the overall system, it is important that projects with costs vastly exceeding income collapse quickly to avoid risk and weakness in the larger system. Equity investment in infrastructure is a necessary step to capture long term value, but it can not fix situations where cost exceeds income. If a large investment is able to capture a lead in a marketplace, the project must gather value and convert it to income, or sell their network to a system that can gather value.

Appendix D: Aggregate Cost Averaging and Behavior Valuation

The micromanagement approach to costs and income is very significant, because it is impossible to lose money on every transaction and yield an overall profit. The converse statement is true, it is possible to accrue revenue on every transaction and not yield gross profit due to infrastructure, licensing and total system costs.

MediaCoin takes the approach that earning income on every transaction while minimizing infrastructure costs will yield total system profit. Unlike most projects, MediaCoin will avoid aggregates of cost, profit and transaction volume for a total system gross profit. Many projects take the approach of advertising "screen real estate" to gather income. The expected income is based on the total screen real estate of all combined users viewing advertisements. If the advertising income is higher than the total system costs, the project yields gross profit. As the cost of providing services to each individual user is minimized, the system costs go down. If the advertising yields a profit to the advertiser, the advertising becomes sustainable and so does the projects that rely upon advertising for income. It is not possible to overstate the profit significance of only providing services to each user based on the actual gains to the entire system. Each transaction and each user will be profitable, with the exception of initial cost of user acquisition. Infrastructure and some licensing will primarily be paid for with the Initial Token Sale and ongoing sales of Tokens.

Subscription models for content have disproportionate usage. 52% of all adults who read the news never subscribe to a particular newspaper. The delivered value to users who pay for monthly subscriptions but

infrequently use them will lead to user dissatisfaction regardless of quality of service. Creating artificial barriers to cancellation creates a secondary consequence of alternative markets. As the trend of cellular service requiring a 1 year minimum contract progressing to a 3 year minimum contract, the market for pay-as-you-go service without cancellation barriers grew in correlation.

MediaCoin's use of Tokens to accurately represent value allow us to map costs and offer peers payment for lowering costs. The main cost for streaming sites is clearly bandwidth, and members who offer their bandwidth to peers can be paid accurately per megabyte delivered for data transfer. Use of bounties and tokens for services will allow us to spend tokens instead of venture capital for behaviors that increase the value of the network. We intend to reward our community for contributing to our success, rather than exploit it as a no cost means of providing support without reward.

Accurate Cost Measurement and Behavior Valuation will allow our company to recognize inefficiency and reward efficiency while increasing the total value to all network participants.

Robust decentralized verified network of master session handlers to convert, encrypt and deliver data.

In order to comply with laws world wide content will be tagged and accepted or rejected by masternodes and each other connecting node. This allows compliance with local law to prevent illegal content.