current

An Incentivized, Blockchain Enabled Multimedia Ecosystem

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Executive Summary

Earn Credits by streaming from multiple media networks and content libraries in an all-in-one personalized experience.

Current is creating an in-app credit system (the “Credits”) that is planned to uniquely reward a person's data, time, and attention shared during the media streaming experience. The Credits are intended to be used within the Current Network to purchase a broad range of products, services, and in-platform advertising.

By consolidating popular media networks into one place, the Current Network has already provided more than 900,000 users with a more convenient search and discovery experience. With the launch of the Credits, it is intended that Eligible Users will be rewarded Tokens for streaming content from their favorite networks *(Endnote 1)*. It is intended to combine behavioral data points surrounding the types, times, and topics played by each person across multiple networks to serve up better recommendations than any single network alone.

Blockchain technology may allow for a new system of transparent accounting that is needed for the instant valuation of time, data, and attention. The Company plans to align the interests of all stakeholders in the media consumption cycle to create network effects that drive adoption. By creating a new medium of exchange, it is believed that consumers will receive more choice in how they pay for media while creators and curators will receive a new form of compensation, and advertisers will receive more transparent accounting and audience information.

The Current Protocol is planned to be utilized within the Current Network in addition to any other host media services. This is intended to introduce a new revenue stream and incentive mechanism for the host service by giving it the ability to scale effectively. Over time, it is believed that developers will leverage the identity profiles created for future blockchain based systems.

Vision

Attention and personal data are now considered by many to be the most important commodities on the internet. Media both serves as an effective place to create an attention/data economy and looks to be primed for blockchain disruption. By taking a passive habit and correlating value to it, Current is planning to set a precedent in today's digital landscape. Users should get more than just entertainment, creators should get a bigger cut of revenue, and curators should get paid for finding the content users didn't know they loved.

Media for Web 3.0

The web we know today was built on the personal data and time of the unwitting consumer. Today, just four companies own the internet's data *(Endnote 2)*. We believe that the next evolution of the web will recognize the value of people and redefine the value exchange between consumers, and corporations.

The Streaming Generation

With an estimated buying power of $44 Billion, members of Gen Z are spending more than 5 hours per day on their phones *(Endnote 3)*, which we believe makes them well positioned for cryptocurrency adoption. The Current Network is designed with the most digitally active generation in mind, we have endeavored to differentiate ourselves from the infrastructural protocols developed to serve the "initial wave" *(Endnote 4)* of avid users and deliver a valuable new audience to the world of blockchain.

Gen Z and Millennials are having deeper and more frequent interactions on video and music services than ever before. They are more likely to search YouTube for a given question than to Google it *(Endnote 5)*. Armed with an acute awareness, and a strong interest and understanding of the digital landscape, we expect that these groups will represent the first generations who will be immersed in blockchain products and services. It is our goal that the Current Network's digital wallet will be the first the mainstream public will own.

Introduction

Designed to evolve over time utilizing a combination of on-chain and off-chain solutions, the Current Network is being designed in a hybrid fashion to accommodate shifting market dynamics in the blockchain, media and cryptocurrency industries. In the short-term, the Current Network's proprietary algorithm is intended to create personalized content recommendations using data from all integrated third-party media services within the Current Network. Current's Protocol and Credits are planned to be used to introduce new revenue streams and incentive mechanisms that are planned initially to be launched within the Current Network and later to be made available for developers to leverage in their applications.

Traction: A Universal Media Network *(Released on iOS, March 2017)*

In its present state, Current is solely sourcing content from third-party networks like YouTube, Spotify, Apple Music, Internet Radio etc. ensuring adequate supply of media to accelerate growth and meet user demand. At this stage, the goal is to find product-market fit to establish a strong foundation for the product.

With over 300 million songs and over 1 billion videos, over 900,000 people have used the Current Network to listen to, watch, and interact with media. The average user spends over 11.5 minutes per session and our Day 30 retention as of Q2 2018 is around 30% without any incentives, well above industry standards at this stage *(Endnote 6)*.

The Future of the Current Network

In collaboration with independent media services, the Current Protocol is planned to be broadened by creating Credits within each host media service. Each new Credit is planned to have its own distribution rules and mechanics that are customized to the goals of the media platform. To avoid negative impacts on the Current Network, the Credits are planned to have individual exchange rates related to the Tokens and internal dynamics that are insulated by the inherent nature of the Credits. It is Current's intention to remain fully compliant with all applicable securities laws as governed by the applicable bodies in each of the countries in which it operates. As previously noted, if this proposed model is deemed non-compliant under future securities laws, Current may need to alter the exchange model.

As blockchain technology continues to mature and adapt to market needs, Current plans to continue to leverage bleeding edge technologies to maximize value for all participants. Two such strategies include:

A Superior Identity Profile For Blockchain Based Applications

By aggregating the given identities of a user from several networks, Current plans to be in a unique position to develop a robust preference and identity profile. This authentication layer is intended to allow any third party application to utilize the user's identity attributes and associated data without taking ownership of it.

Decentralized Storage Infrastructure Alongside Centralized Networks

Current intends to provide a decentralized media infrastructure within the Current Network to host content across millions of devices rather than on proprietary nodes. Fully decentralized media distribution requires significant and rapid industry acceptance. Without it, consumers are left with a limited content library.

Current intends to gradually leverage blockchain in the expectation that the general public will further adopt cryptocurrency and the media industry will transition to a more decentralized infrastructure. This approach is intended to allow the platform to gain momentum and reduce barriers to entry on both sides. Creators are expected to benefit from an established group of Credit holders within the Current Network, and a significantly higher portion of revenue. The platform is planned to leverage a protocol like IPFS or Storj as a directory for data storage and Ethereum smart contracts as the distribution logic.

A New Way to Play Media

The Current Network is intended to provide a more convenient and thorough media search and discovery process by consolidating disparate content sources into one place. Aside from reducing the number of apps needed to play music, video, podcasts etc., the platform has many data points available about the media types, times, and subject matter that a person experiences and we believe can generate recommendations better than any single network alone. The Current Network is available with 8 integrations and intends on integrating more services that host podcasts, audio books, television shows, and movies.

More Convenient Streaming

Unlike conventional content networks like YouTube or Spotify, which are limited by the content hosted on their platform, the Current Network is intended to access the content libraries from multiple services through Application Programming Interfaces or APIs. An API is a set of routines, protocols, and tools that govern the interaction of software components *(Endnote 7).*

Keeping Up With Culture

The Current Network integrates with external media services to meet the demand for popular media only available on proprietary networks. We believe that using third party libraries provides Current with an unparalleled agility to add or remove libraries as they fluctuate in popularity.

For instance, it is expected that live streaming, virtual reality and augmented reality will become more ubiquitous in the coming years; the Current Network is well suited to integrate the most popular media services that serve these types of content.

Better Recommendations

An algorithm can consolidate a seemingly limitless content library into a subset of options that users can understand and make choices from in moments. In order to make any given list of information more manageable, we believe that a recommendation system must model users' preferences accurately, uncover hidden preferences, and avoid redundancy.

The Current Network's proprietary recommendation algorithm is planned to leverage both Content Based Filtering and Collaborative Filtering to determine what media users are most interested in. Using machine learning and neural networks, our algorithm is planned to self-amend and change incrementally based on the relational information it defines *(Endnote 8)*.

Building a Preference Profile

A *preference* in this circumstance is defined as a combination of inputs / actions that jointly indicate a greater enjoyment of one media item over another or others.

Media items are defined by their metadata: artist name, album name, song length, beats per minute, genre type, mood type, era of origin and social data including likes, follows, comments, shares and other qualities. Types of media are broadly represented by various audio and visual formats including music, video, podcasts, posts, articles, audiobooks, TV shows, movies and other media yet to be popularized.

It is intended that the Current Network will begin building an individual's preference profile at the start of a user's journey, after they select a genre from a predefined list. By finding other content within the same or similar genre, the content filter is intended to provide an initial set of recommendations with varying degrees of strength. The system funnel further analyzes each media item to create a relationship between them and make recommendations based on what we believe are strong attributes like user plays, saves and skips.

Over time and with the addition of profile information from third party integrations, the preference profile is planned to become more robust than a similar model built on any single external network. As new types of media services are added to the Current Network and users interact with more types of content, our preference profile is expected be in a unique position to identify commonalities between different types of media such as podcasts, videos, audiobooks and articles and so on.

Proprietary Recommendation Algorithm

Our recommender system is intended to maximize two filtering methods: Content Based Filtering and Collaborative Filtering. While Content Based Filtering offers recommendations of new tracks similar to a user's past consumption history, Collaborative Filtering offers recommendations to a user based on what other, similar users listened to.

While Content Based Filtering uses features generated from textual metadata (genre, category, keywords, embedded description words), Collaborative Filtering calculates the correlation between the vectors which represent user consumption history.

To improve efficiency with sparse data, the Current Network's algorithm is intended to measure the cosine similarity between two vectors (representing users or tracks). Using a matrix of users and tracks the algorithm is intended to measure the magnitude of a user's perceived value of the media content through the vectors in a corresponding graph. We then endeavor to analyze the cosine distance between two vectors to make recommendations:

$$cos(\mathbf{i},\mathbf{j}) = \frac{\mathbf{i}\cdot\mathbf{j}}{\|i\| * \|j\|} = \frac{\sum_{u\in U} r_{u,i} r_{u,j}}{\sqrt{\sum_{u\in U} r_{u,i}^2}\sqrt{\sum_{u\in U} r_{u,j}^2}}$$

Recommendation Algorithm Runs Off-Chain

The user is the magnitude of a track play, where “i” and “j” are two users and this formula is applied to a specific track. The smaller the distance between two vectors, the higher the similarity between two tracks or users.

To further improve our recommendation accuracy, the Current Network plans to also employ features generated by convolutional neural net and autoencoder models in our Content Based Filtering algorithm.

Credits for the Media Industry

Purpose of the Current Protocol

The primary objective of the Current Protocol is to facilitate transfers of value between media services. Current plans to partner with media networks to facilitate the onboarding and adoption of the Credits, but the exact governance mechanisms of the Credits will be left up to the participating media services.

The Current Protocol will capture all play claims made by users at the conclusion of a track play, analyze this play for legitimacy and fraud detection then, applying a series of network and individual influenced coefficients, will derive a reward value for a play claim, which will be available near real time in the Current Network's in-app digital wallet *(see the section below - Reference Architecture of Credits for Current's Credit economics)*.

Ethereum Based

The Credits are planned to be implemented on the public Ethereum blockchain as an ERC20 token. With incremental advancements, one of the largest developer communities, and top-tier backing the Ethereum blockchain has become the industry standard for issuing custom digital assets and smart contracts. The ERC20 token interface allows for the deployment of a standard token that is compatible with the existing infrastructure of the Ethereum network (i.e., wallets, dev-tools, etc.) Although limitations in transaction speeds exist, leveraging off-chain payment channel networks such as Raiden are intended to address these bottlenecks *(Endnote 9)*. Advancements such as these are planned to allow platforms to track microtransactions down to the second.

The Current Network only measures consumption on multimedia services. As of now, the Current Network does not plan on measuring contribution on platforms such as Facebook or Twitter. Alternate initializers may be considered in the future. Once the initializer is verified, the contribution may be attributed to the appropriate participants *(see page 17 - Play Claim Distribution)*.

The Importance of Cryptocurrency Ownership

At large, we believe that cryptocurrency ownership increases participation in blockchain-enabled products and propels advancements throughout the industry. Within the Current Network, scaling the user base will be a key factor in the valuation of the Token. The larger the population of Credit holders, the more momentum the technology can gather. The favorable reception of Bitcoin in financial markets has led to a certain foundational strength upon which to build. Going beyond transparency, cryptocurrency allows for real-time payments down to the fraction of a cent, which offers more control to both the subscriber and provider like never before.

Reference Architecture of Credits

The reference architecture proposed in this section is intended to compensate Eligible Users for their time and attention within the Current Network. For every second of play that a user generates a Credit will be allocated to the media consumer, creator, curator and referrer if one exists.

Stakeholder List

Consumer

The person(s) playing the media and paying for subscriptions.

Curator

The person(s) organizing the playlist or bringing the content into the network from an external source.

Creator

The person or group responsible for the content being played.

Referrer

The person responsible for bringing the consumer onto the platform.

Distribution Reward Algorithm

Each play claim will be rewarded based on a series of consumer influenced, as well as network determined factors to derive claims value distributed by the Credits.

Verifying Play Legitimacy

The play legitimacy likelihood is a coefficient designed to prevent inauthentic plays from creating Credits. This coefficient is planned to be regularized so that it is consistent across the Current Network in the majority of cases and 0 (zero) for identified frauds on a by-user basis. Our proprietary algorithm is intended to solve an anomaly detection problem based on features generated from Current Network usage, like app foreground consumption, advertisement interaction and session velocity and length.

This algorithm is computationally expensive and presently the required data points are located off-chain. For these reasons, our anti-fraud checks are planned to be performed by the off-chain Current Network API. We may consider moving these checks on-chain once more of our data moves on-chain, and if on-chain transaction costs fall to an affordable rate.

Customer Attractiveness

The customer attractiveness ratio is a coefficient within 0 (zero) and 1 which represents the degree to which the user is integrated in the Current Network, coupled with the likelihood that the consumer notices the ad.

1. Attractiveness of a user based on attributes learned through data from advertisers and in-platform analytics:
    a. Country
    b. Occupation
    c. User preference data
    d. App foreground vs. background use
    e. Calendar access
    f. Location access
    g. Number of accounts connected
    h. Third-party preference profiles

2. Likelihood of user interaction and click through with ad learned from in-app data.

3. Incentives for in-network participation.

Similar to verifying play legitimacy, this calculation requires a significant amount of data located off-chain, and would incur large transaction costs if performed on-chain. For these reasons, the majority of these calculations will be conducted in an off-chain API.

Purchasing Power Parity

In order to maintain an earning and redemption equilibrium across the geographically diverse population of the Current Network, a Purchasing Power Parity exchange rate will be applied to claim value distributions based on a user's country of origin. Rates for PPP are sourced from The Organisation for Economic Co-operation and Development (OECD), and are relative to USD (*Endnote 10*).

$$\text{PPP Coefficient} = 1 / \text{PPP}$$

Taper Coefficient

To ensure the Credit's economic value is based on the highest attentional contribution, as well as to discourage bad actors from devaluing the platform, a tapering coefficient is applied to each users play claims over an earning period (currently 1 Day). After an initial 3600 seconds of claims, a user's taper coefficient will be equal to:

$$\textit{Taper Coefficient} = 3600 * \textit{sum(length played)}^{-1}$$

Network Coefficient

To effectively adjust for the inflationary nature of the Credits, it will be necessary to adjust the overall value to ensure liquidity within the Current Network. This network coefficient will be reviewed and adjusted as necessary to ensure balance between the Credits and the Tokens.

$$R = 1$$

Play Claim Value Calculation

$$Cv = \textit{Length Played (seconds)} * \textit{Network Coefficient} * \textit{Taper Coefficient} * \textit{Attractiveness Coefficient} * \textit{PPP Coefficient}$$

Play Claim Distribution

On a fixed interval schedule all valid, unprocessed play claims will be aggregated per user and a single transaction will be generated in our centralized blockchain database. The Current Network's wallet will show users their Credit balances, immutable transaction history as well as supporting claim audits.

Claim distributions for stakeholders will be as follows:

Stakeholder	Distribution %	Use of Credit

Consumer	57%	Spent within the Current Network, exchanged for value in another credit system economy in the Current Network or redeemed for Tokens by Eligible Users
Creator	20%	Spent, Traded or Decayed
Curator	20%	Spent, Traded or Decayed
Referrer	3%	Spent, Traded or Decayed

It is planned for distribution to consumers to be 57%, for creators and curators to be 20%, for referrers to be up to 3%, and for the growth pool to be 2%. When content is consumed and a third party curator is not present, it is planned for Current to be awarded the applicable 20%.

Key Takeaways

Current plans to initially provide a protocol and the Credits that can be used within the Current Network and ultimately on external media service partners. Current hopes to bring value to all players in the media consumption cycle.

Earning and Spending Credits

The main way to accumulate Credits is planned to be by playing media within the Current Network. As the Current Network increases its reliance on blockchain technologies, it is intended that stakeholders will be impacted differently.

Credits Earned by Consumers

The amount of Credits earned by the user is planned to be reliant on their attractiveness coefficient and the number of referrals they've made successfully. All users who consume media on the Current Network from any of our content integrations, are planned to be awarded with Credits.

Syncing Media Services and Preferences Within the Current Network

A user's ability to earn Credits will be impacted by the amount of data that is tied to their account. It is planned that they will be able to increase this rate only by opting-in to sync other third-party profiles. This incentive is intended to increase user inputs and allow the recommendation algorithm to provide more personalized content. As the Current Network grows, more value is expected to be created and a more robust recommendation platform with exponentially greater content integrations is expected to emerge for users.

Inviting Other Users to the Current Network

It is planned that a user may invite others to the Current Network and earn up to 3% of their distribution value of Credits earned by each new user, earning in perpetuity. Current may implement a split of the 3% where both the referrer and the referee each get a 1.5% share of the Credits the new user earns.

Example: Tom joined the Current Network on his own. Tom Invites Steve and then Steve invites Jerry.

Tom = 55% of his CR (Credit reward) + 1.5% of Steve's CR

Steve = 55% of his CR + 1.5% bonus of his own CR + 1.5% of Jerry's CR

Jerry = 55% of his CR + 1.5% bonus of his own CR

Ad threshold and Faster Mining

It is planned that new users will be shown ads until they have 5 Credits in their wallet (or the equivalent of the lifetime value of a free user within the Current Network). Ads are planned to reappear if the user's balance drops below this threshold. It is planned that users will not need

to trade in Credits to eliminate ads post-threshold. If a user chooses to keep ads activated, this will be intended to positively affect their contribution coefficient, effectively allowing them to mine Credits faster.

Credits Earned by Curators

Within the Current Network, users are planned to be able and encouraged to curate multiple media streams into channels. These channels are planned to act as “folders” of content from multiple media networks. Current plans to reward users who curate popular channels within the Current Network by measuring the amount of time spent on their curated media.

The curators are planned to get a 20% share of Credits based on the consumption of their channels and playlists. Since consumption is the primary method of measurement for their reward, the attractiveness coefficient of the users that the curators curate for is planned to determine how many Credits the curator will earn per session.

Credits Earned by Creators

At present, the Current Network provides content through a series of content integrations. Together, these integrations provide users with what we believe is an unprecedented catalog of media. In early 2019, the Current Network is planned to allow for the direct upload of content to its network and to distribute that content in a decentralized manner.

To strategically onboard creators, Current plans to allocate 20% of each earned Credit to the creators of the media consumed within the Current Network regardless of the media service the item is sourced from. All earnings are planned to be held in escrow until the creator joins the Current Network and claims their digital wallet.

An escrow account is planned to be created once a creator has accumulated 36,000 seconds (10 hours) of streaming. If creators do not claim their digital wallet within 12 months, a 10% monthly decay rate is planned to be imposed. This time limit will be intended to motivate creators to join sooner and also safeguard the platform from having too many Credits out of circulation. All decayed Credits are planned to ultimately go back to the Credit pool via the growth pool.

Once on the Current Network, creators are expected to continue to upload their content to their platform(s) of choice (Spotify, YouTube, Apple Music, etc.) and a user is then intended to consume that content via the Current Network. The creator is planned to get paid their usual license fees from the integrated platform (ex. Spotify or YouTube) in addition to getting a 20% allocation of the earned Credits from the Current Network. As the platform further integrates decentralized storage, creators will be able to earn 100% of their revenue when paid in Credits.

With these mechanisms, we believe that users will be able to better support their favorite creators by consuming on the Current Network and helping them earn more for their work.

Credits Spent within the Current Network

Credits are planned to allow users to redeem rewards within the Current Network.

Premium Services

Users are intended to use Credits to pay for premium services on the Current Network. Such services may include offline listening, ad-free streaming, exclusive uploaded content, and memberships to the premium services with which the Current Network integrates.

Donations and Payments

Credits are then planned to be allowed to be sent to other users within the platform. As our platform expands we plan for users to also be able to use Credits to buy tickets, physical goods, and other services.

Advertisers

Credits are planned to be the primary currency within Current. Advertisers seeking direct relationships with Current are expected to need to acquire Credits in order to promote campaigns within the Current Network.

Future Applications

As the platform grows we believe that tens of millions if not more Eligible Users will be holders of Credits. The Company is planned to provide support to enable other applications to use Credits for digital goods and services outside of the Current Network.

Key Takeaways

Credits are planned to be split amongst participants to seed the platform with useful value that initially serves to reduce subscription costs for consumers and ultimately to support creators who upload their content to the Current Network.

Economics and Network Dynamics

The Current Network's economy has the potential to be measured by the number of users playing media and their contributions to the service. The Current Network has several economic stabilization tactics to balance inflows and outflows.

Stability and Value Creation

Economics teaches us that value is subjective. Economic value for an item is created because people desire that item for one reason or another.

As Bitcoin came into existence in 2009 and adoption spread, the value of the virtual currency skyrocketed. In 2016, Dutch economists Von Oordt and Bolt published a model to analyze virtual currency exchange rates and what factors led to value creation. They found that three components are important:

1. The existing use of virtual currency to make payments.

2. Forward-looking investors buying the virtual currency, effectively regulating its supply.

3. The factors that together will drive future consumer adoption and merchant acceptance of virtual currency *(Endnote 11)*.

The basis of their theory came from economist Irving Fisher's observation from 1911 *(Endnote 12)*, that speculators may effectively limit the money supply by withdrawing money from circulation in anticipation of higher future utility.

Current's expected Tokens are envisioned to be influenced by economic forces similar to limited issuance currencies such as Ethereum and Bitcoin. When initially creating the foundational layer behind the Current Network, these factors were taken into consideration.

Growth and Network Effects

- Entry point into cryptocurrency for mass market by rewarding a daily habit: media consumption.

- Reward all participants of the media consumption cycle (consumer, curator, creator).

- Incentivize growth and improvements of the platform via contributions of the community (consumption, time, attention, referrals, user data integrations).

Dynamic Subscription Model

The Credit is intended to create a dynamic subscription model for streaming: one which, by allowing users the choice of toggling ads and subscribing to premium services, efficiently captures consumers' willingness to pay for premium services against viewing ads.

Evidence from the financials of two streaming services, Spotify and Pandora, show that consumers bring 30% - 40% higher revenue on a subscription over an advertising model *(Endnote 13 - see Appendix 1 for a comparative analysis)*. Yet the subscription segment across almost all services is smaller than that for free-tier users.

In addition, the standard binary "advertising or subscription" model does not efficiently capture different consumer demand elasticities: especially those who value an ad-free experience, but do not necessarily consume enough to warrant a full-priced subscription.

Revenue Model

We envision five main ways of creating value for the Current Network:

1. Users trading their Credits in for premium subscriptions and services

2. Ad Impressions before and after the ad-threshold is reached

3. Third-party service fees for access to Current identity profiles

4. Brokering the sale of Credits to advertisers from Credit holders (consumers, creators and curators) within an internal marketplace

5. Earning a 20% Credit share from media played in any of the Current Network's curated channels

Governance and Transparency

Current believes that the biggest issue facing blockchain and companies operating in the industry today is the lack of transparency to the public. Current believes that it puts all blockchain based projects at risk, thus Current plans to implement a core initiative shared with many amazing companies "Default To Transparency" *(Endnote 14),* where Current's community is provided with the information they deserve.

Starting in Q1 of 2018, Current began sending quarterly reports to all backers and it is planned to do so on a quarterly basis. A lack of transparency can create a lack of trust. In addition, it is planned to add additional governance mechanisms into the Current Network that facilitate the growth of the platform alongside community supported development and greater good objectives.

Key Takeaways

The Current Network is planned to be designed to combat fraud and reward contributions but ultimately requires certain mitigation tactics to remove bad actors from the community. Additionally, Current believes in operating and communicating setbacks, progress and milestones in a frequent and transparent fashion.

Market Landscape

Most of the blockchain-enabled media companies are focused on areas such as copyright attribution and decentralized distribution. Only a few of them are focused on incentivizing social media and advertising. Our analysis of the market landscape located several media-related tokens and revealed trends that have influenced our commitment and vision.

Incentivized Social Media and Advertising Landscape

This market segment encompasses a cross section of incumbents pairing a daily habit with a simplified user experience that aims to remove the common barriers and technical complexities associated with the mainstream adoption of existing blockchain enabled products.

Kin, By Kik Interactive

Kik's successful experiment using a non-blockchain digital currency within their messaging platform validated that a decentralized currency could also take hold. After its implementation, the monthly transaction volume hit nearly three times the global transaction volume of Bitcoin *(Endnote 15)*, their users proved their ability to quickly adopt and use the currency.

The Kin Token is planned to be used to reward users for their contributions to the ecosystem. As an established platform with millions of users, Kik will likely benefit from fast and broad adoption of Kin.

The Kin Token, much like Current's Credits, are planned to be used to reward creators, access premium content, and pay for goods and services within the Current Network. While in a different market segment from Current, Kik has proven that a the 13-24 year old demographic has a strong willingness to adopt a digital currency with low barriers to entry.

Basic Attention Token (BAT) and Brave Internet Browser

Brendan Eich, the founder of Javascript and co-creator of Mozilla, created the Basic Attention Token (BAT) to facilitate value exchange in the Brave Internet Browser's digital advertising marketplace. Brave is an open-sourced, privacy-focused internet browser that blocks malvertising and ad-trackers while accurately rewarding publishers and advertisers through smart contracts on the blockchain *(Endnote 16)*. While capitalizing on the security and privacy conscious desktop internet user, they've also grown a modest user base of blockchain early adopters from the momentum of their successful ICO which raised $35M. Similar in the way that BAT commoditized and rewards for "user attention" using web and publisher content, Current is planning to directly apply to multimedia consumption.

Steem

Steem is an incentivized social media platform, which is similar to Reddit and uses the its own blockchain and proprietary credits to reward and moderate discussion *(Endnote 17)*. Their platform has seen considerable growth within their core demographic of cryptocurrency enthusiasts and early adopters from the proliferation of interest in digital currencies and blockchain technology. Steem's community reward system is similar to Current's planned system; however, their reward system requires input from users - reading content, voting, and commenting. It is planned that the Current Network's users will earn Credits merely from their consumption patterns within the platform.

Decentralized Media Platforms

We believe that blockchain technology is poised to be as disruptive to the Media Industry as digital recordings and the internet have been. Decentralized computing, and the distribution models enabled by it, level the playing field so newcomers and established creators can both thrive. Broader audiences and more transparent payments top the list of benefits to creators and consumers. However, new decentralized platforms, like Ujo, Opus, JAAK and SingularDTV face issues like industry lobbying, adoption rates, prior cryptocurrency holdings, limited content libraries and technical hurdles.

Current is intended not to be impeded by rights attribution, a limited population of cryptocurrency holders, or a limited content library. There's planned to never be a shortage of cryptocurrency holders on the Current Network because all users are intended to immediately earn Credits by streaming media. The content library and rights attribution issues are intended to be handled by our external media partners.

Advantages in the Media Landscape

While there are certainly other companies within the media and social landscape looking to capitalize on blockchain technology, Current plans to encompass a much broader spectrum of content offerings using our hybrid approach than any one company in the same market can offer.

Key Takeaways

User attention is being commoditized across several mediums including messaging, web browsing, and media production. Platforms, like Kik, have validated the adoption of a digital currency within the 13-24 year old market; Current aims to penetrate that market from a media streaming standpoint.

Privacy and Security

User Data Collection and Anonymity

We realize that some users may be skeptical of our usage of the data collected based on past experiences with other software organizations. Like many market leaders, Current puts the user at the helm and gives control with opt-in, opt-out features.

It is planned that users will be allowed to choose whether or not to contribute to the algorithm and earn Credits at a faster rate. It is also planned that users will be allowed to decide what to share with the Current Network and adjust their privacy settings accordingly, with most personally identifiable pieces of information decoupled from preference data. Current is dedicated to the security and privacy of our users, and community members, and plan to keep all private data on the user's device. Current plans to continue to make this a top priority as the Current Network evolves.

Credit Account Balance

Current will display a user's in-app balance of Credits earned to-date. The application will provide detailed records of each media play claim made by a user along with the Current Network's analysis and aware distribution for every play. At the conclusion of each track play, the application will submit a play claim on the user's behalf which is evaluated in near real time and provides the user's balance feedback in regard to the play validation and Credit distribution, and updates the user's wallet balance.

Users play claims and balance adjusting transactions are stored and processed off chain in append-only, immutable database.

Credits can be redeemed for in-app features and digital goods.

Advisors and Investors

Mark Cuban - Owner, Dallas Mavericks; Chairman, 2929 Entertainment
Investor, Innovator and Philanthropist. Early in his career he sold his computer consultancy, MicroSolutions, to CompuServe. As pioneer of digital media broadcast, he later launched and sold Broadcast.net to Yahoo. Beyond that, 2929 Entertainment owns and manages AXS TV (previously HDNet). Current owner of Dallas Mavericks.

Galia Benartzi - Co-founder and Business Development, Bancor Foundation
As a technology entrepreneur, she has been building software startups since 2005. She has been through multiple acquisitions, wind downs, venture capital financing and everything in between. She Co-founded Bancor, one of the top 5 ICOs of 2017. Studied at Dartmouth College and Johns Hopkins University.

Eyal Hertzog - Chief Architect and Head of Product Development, Bancor Foundation
A venture-backed technology entrepreneur for over 20 years. Founder of MetaCafe, Israel's fastest growing video sharing site reaching over 50m uniques before being acquired. Previously, Eyal founded Contact Networks, one of the first social networks, in 1999. Eyal has been an outspoken thought leader on cryptocurrency in Israel.

Dave Hoover - Co-founder, Dev Bootcamp; Engineer, Augur, ConsenSys, Raise
With a background in Psychology, Dave’s been an engineer ever since he became interested in how technologists become competent and keep up with the constant change in the ecosystems. Minority owner of 3 acquired companies. Supports his 14 portfolio companies.

John Wise - Founder, CEO Loci, Inc.
Redefining the world of innovation by developing a platform technology which maps the landscape of innovation. John has extensive technical and engineering management experience with a proven track record of successfully creating, developing, and implementing new products and services, managing organizational and product growth, and creating process improvements.

Danny Johnson - CEO and Founder, PinkCoin
A champion for charities and those in need of assistance, often donating his time and energy to charitable efforts which is rooted in the vision of Pinkcoin. MBA from Hawaii Pacific University.

Tony Simonovsky - ICO focused Growth Hacker, KICKICO
Serial entrepreneur. Back in 2005 he started his first business, providing SEO services to clients in the Moscow region. In 2012, he began applying data science to online marketing. In the course of next 3 years he became a well-known expert in the area and is now helping companies worldwide become data-driven, still living a life of a digital nomad.

Daniel Hoffer - Founder, Couchsurfing; Fmr. Partner, Tandem Capital

Investor, advisor, and strategic general management expert with a passion for both consumer and SAAS, especially in the areas of online travel, marketplaces, and sharing economy, among others. Professional experience as a VC, Fortune 500 product executive, and founder/CEO.

Gregg Latterman - Founder, Aware Records; A-Squared Mgmt.
Gregg has spent over 20 years in the music and entertainment industry. Founder of Aware Records and A-Squared Mgmt; signed Train, John Mayer, Five for Fighting and Mat Kearney, The Fray, Michelle Branch, Liz Phair, Brandi Carlile, Jack's Mannequin, etc. These artists have sold over 30 million CDs, in addition to billions of streams of their individual songs.

Core Team and Contributors

With four years of experience building consumer and media products, we have generated tens of millions of app downloads and tens of millions in revenue. Our most recent exit was ranked amongst Alexa's Global Top 500 most trafficked websites.

Dan Novaes - Co-founder, CEO
Dan has been profiled in Forbes, Entrepreneur, and Bloomberg TV for his entrepreneurial achievements and has amassed a following of 1,200,000. He's had two prior exits from companies generating tens of millions in revenue. Dan has been investing in the blockchain space since 2013.

Kiran Panesar - Co-founder, CTO
Kiran has built and overseen sites that provide secure, scalable web services for tens of thousands of concurrent users, handling over 1 billion requests per month. He's passionate about bringing the same scalability to decentralized technology.

Nick McEvily - Co-founder, CPO
With extensive experience leading software and design teams for the last eight years, Nick oversees the product design and development at Current. He has spoken on blockchain technologies and is an avid Ethereum and Bitcoin investor.

Andy Pai - Head of Operations and Finance
Before Current, Andy was the Co-founder and CEO of finbox.io—a profitable Y-Combinator backed investment analytics company. Before founding finbox.io, Andy lead analysis as an investment banking Associate at Duff and Phelps on board advisory engagements totaling billions in deal value.

Josh Moyer - Marketing and Communications Manager
Experienced across business development, UI/UX, research, paid marketing, growth and data analytics. Leveraging his unique skill set, he's driven hundreds of thousands of downloads from the 13-24 year old demographic and facilitated partnerships with major influencers.

Seamus Doheny - Curation Director, Artist Liaison; Partner, Manifest Chicago
Seamus has years of experience in the media space as a music video producer for Towkio and an alumni of Atlantic Records and OWSLA. At Current he oversees artist partnerships, creates original content, and maintains the highest curatorial standard.

Ryan Fisch - Lead Blockchain Engineer
Ryan has spent nearly the last two decades as a developer working across supply chain, logistics, advertising, investment and financial services, real estate, and media. He spent his early years as MS Full Stack, transitioning into cloud, distributed systems, microservices and most recently Blockchain. Ryan specializes in Java, Javascript, C#, vb.net, Ruby, Python, Node.js, and Solidity. He is also a certified Scrum Master and AWS solutions architect.

Brian Dentino - Senior Full Stack Developer
Previously founder, CTO and wearer of many hats at finbox.io—a profitable Y-Combinator backed investment analytics company. Before founding finbox.io, Brian was a Software Engineer at GE Healthcare. Brian holds Bachelor of Science degrees in both Physics and Computer Science from Notre Dame, and a Master's Degree in Computer Science from the University of Illinois.

Steven Lee - Engineer
Steven is Lead iOS developer at Current. He has performed research in using machine learning combined with predictive algorithms to analyze financial data. Using his past knowledge, he will be aiding in creating the algorithm for providing recommendations through Current.

William Ryan - Behavioral Economist; UC Berkeley, PhD Candidate
William is conducting research in Cognitive Neuroscience and Behavioral Econ. Previously, a Senior Associate at TGG Group, an innovative consulting firm founded by a handful of the world's leading economists and psychologists including Nobel Prize winner Daniel Kahneman, Freakonomics author Steven Levitt, and former Citigroup CEO, Vikram Pandit.

Brian Ng - Economics and Mathematics, University of Chicago
Brian is a data scientist and former economics consultant at TGG, where he worked with leading economists including Nobel Prize winner Daniel Kahneman, and Freakonomics author Steven Levitt.

Amy Karr - Co-Founder, Arclydia; Forbes 30 under 30 recipient
Amy has crafted media messaging, strategic content and data-driven creative narratives for the last 8 years. She was the former VP of Content and Strategy at Starcom, Head of Strategic Partnerships for Hillary for America, and is an award winning marketing strategist.

Jill Richmond - SVP, SparkPR; SparkChain
Jill is an advisor, consultant and thought-leader on emerging technologies coming to market, among them blockchain, artificial intelligence and digital platforms. Jill has over 15 years of experience focused on startups including co-founding two, advising several, helping talented CEO's bring products to market.

Frequently Asked Questions

Why does Current need to use the blockchain to accomplish its goals?

Current plans to utilize the benefits of the blockchain across two phases, first, enabling the Current Network to record user contributions to the platform and reward them for their time, attention, and consumption. This is planned to continually evolve towards using the blockchain to aid in the decentralization and transparent distribution of content, payments, goods and services.

Why did Current choose Ethereum over another blockchain?

The Ethereum network was chosen because it is one of the most robust blockchain platforms built for application integration along with having the largest development community behind it. The Ethereum foundation's dedication to continually develop and improve the underlying technology to improve scaling issues make Ethereum one of the most compelling blockchain platforms to build on top of. Our team has been closely monitoring the progress of Raiden, Plasma, Casper, Sharding, and how we can potentially use state channels to solve the scalability issues we could be facing within the Current Network.

Is the Current Network reliant solely on third party API integrations?

Current launched stage one of the Current Network at the end of March 2017 with a mix of eight public and private integrations, a good portion of which we've secured through direct partnerships. All our integrated partners are benefited as they retain all the user interactions, data, and revenue from plays within the Current Network, i.e. a play on Spotify still counts for a play on Spotify and they get paid on that stream. Also, with the average session duration in the Current Network being an average of 18 minutes and continually increasing, these integrations expect to see longer time spent on these respective networks and a better experience for their users.

Our mission is not to cannibalize our media service partners, in fact we want our users to use Credits for premium subscriptions within these integrated services. This is intended to further benefit these networks and the broad industry as a whole, turning free users into paying users. It is important to note, that our goal is to continue to add content integrations as time goes on, further decreasing the impact of any one integration dropping from the Current Network.

During the final phase, the Current Network is planned to have reached the critical mass of users it needs to make full use of our decentralized media integration that would coexist alongside the most popular third-party media services.

How does Current's Protocol account for new service integrations into the platform?

When new service integrations are added, especially of a new media type (like film for instance), the available pool of relevant information is planned to grow and therefore increase the breadth of our recommendations. We intend to catalogue and display more content and therefore keep users engaged longer. This is intended to in turn impact the contribution coefficient associated with each user and the Current Network as whole.

What is the total supply of the Token?

The total supply of the Token is planned to be limited at 1 billion Tokens.

How are Credits redeemed in the platform?

Users are planned to be able to redeem their Credits for premium subscriptions to our media partners. According to our plan a user would select which service they would like to redeem their Credits for and we would provide a key to upgrade their service on that network.

Where can I learn more about Current?

Current Network Website: https://current.us/

Telegram: https://t.me/CurrentCRNC

Facebook: https://www.facebook.com/CurrentCRNC

Twitter: https://twitter.com/Current_CRNC

Medium: https://medium.com/current-crnc

Appendix 1: Comparative Analysis and Token Dynamics

Spotify

As Spotify isn't publicly traded, we rely here on news reports of Spotify's financials *(Endnote 18)* reported to its Luxembourg parent.

Spotify ended 2016 with 126 million monthly active users, with 78 million (62%) free-tier users and 48 million (38%) paid subscriptions. However, 89.9% of its revenue, 2.64bn EUR., is driven by paid subscriptions. Due to cost of revenues, the gross profit on premium subscriptions was €483.8m, while Spotify's ad-supported business recorded a gross loss of €33.3m.

We assume that cost of revenue is driven by streaming royalties to record labels, PROs, back-office services, and publishers, approximated on a per-play basis. We use a EUR-USD conversion rate of 1:1.2.

Total Cost of Revenue

Premium: 2,640 - 483.8 = €2,156m
Free: 295 - (-33.3) = €328.3m

Estimated Cost of Revenue per User per Year:

Premium: 2156/48 = €44.9 * 1.2 = $54
Free: = 328.3/78 = €4.2 * 1.2 = $5

We assume the average play generates $0.006 in royalties (industry eCPM):

Number of Plays per Average User per Year:

Premium: 54/0.006 = 9000
Free: 5/0.006 = 840

Assuming that consumer valuations for Spotify Premium are solely driven by the avoidance of ads (aside from other benefits, for instance mobile app usage or higher audio quality):

Number of Plays per Average User per Year:

Premium: 2640 * 1.2 / (48* 9000) = $0.007333
Free: 295 * 1.2 / (78* 840) = $0.005403

Thus we estimate that Spotify Premium users overvalue each stream around 35% as compared to free-tier users.

Pandora

Pandora, in contrast with streaming music providers like Spotify and Current, acts as an internet radio provider -- which means its royalty and distribution model is somewhat different, and we track listener time, rather than number of legitimate plays. These figures are quoted from its financial statements: the 2016 10-K and 2016 Q3 10-Q *(Endnote 19)*.

Like Spotify, there are more Pandora free-tier users than there are subscribers. There were 74.5M free-tier users, and 4.39M subscribers in 2016. Its subscription-based service logged 2.79B total listener hours, as compared to 19.17B on the free advertising tier.

We use the RPM metric (revenue per thousand listening-hours) provided on the Pandora 10-K (only the first nine months are included, because the RPM metric is abandoned after Q3 2016):

Advertising based RPM

14.53B listening hours = $58.10

Subscription based RPM

2.04B listening hours = $80.98

By comparison - 80.98/58.10 - we arrive at an estimate of roughly a 39.4% increase in revenue per listening hour with the subscription viz. an advertising model. Keep in mind that Current's RPM is slightly different than Pandora's RPM in the sense that we have an enforced 30-sec minimum per track when counting listener time.

Behavioral Dynamics

Why do users pay more for subscriptions to get rid of ads?

1. Mental accounting. Individuals often assign expenditures to specific accounts, and constrain their spending differently across accounts in ways that often violate the economic principle of fungibility *(Endnote 20)*. Instead of viewing ads, which is a constantly salient expenditure of "attention", users may file streaming subscription renewal fees under a "utilities" bucket, a decision frame in which expenditure "matters less."

2. Salience. Advertising is a continuous demand on attention, whereas a monthly fee is a less salient, one-off expenditure.

Why are there always more free-tier users than subscribers?

1. Consumers view free prices more highly irrespective of cost-benefit difference *(Endnote 21)*. By being free to use, Current leverages the “free” effect to make everyone subscribers.

2. Frictions for payment, like credit card validation and service fees, exist for currency transactions. Using Credits removes the frictions of small payments.

Credit Dynamics Visualization

We calculate a rough projection for hours of play each day on the Current Network by approximating an exponential growth rate, using figures from internal projections. We start with a rough projection for total hours of play by all users each day at 180 hours, high exponential growth in the first two months, and 25% per month for the first year. The block reward is planned to decrease over time linearly as more Credits are mined. We estimate the change of block reward using the block reward equation, and assuming that the growth pool stays at 4% of mined Credits. As total blocks mined increases exponentially over time, block reward per hour of streaming decreases exponentially.

Afterwards, we estimate the Credit reward per listener hour. Using our Spotify average play revenue estimates from page 32 (an eCPM of $0.006/legitimate play), and minute length (3 minutes) and average contribution coefficient (0.5), we estimate the average Credit reward per hour the average listener listens.

We use our Spotify estimate of revenue per hour of legitimate plays ($0.12) divided by average Credit award (0.25) to arrive at a starting price estimate of $0.48 per Credit. As one Credit roughly represents how much economic value one hour of listening brings, so we estimate the price of a Credit given that it equals the revenue brought by its equivalent in Spotify listener time.

Given that the average price of a Spotify subscription is $5.78 *(Endnote 22)*, we estimate that the number of legitimate listening hours for a consumer to earn back a subscription is 43.7 hours.

Appendix 2: Decentralized Media

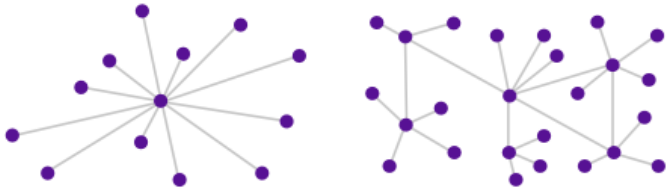
It is cost prohibitive to store large amounts of data on the Ethereum blockchain. The InterPlanetary File System (IPFS) makes it possible to do so while maintaining a decentralized network. IPFS is a peer-to-peer distributed file system that connects all computing devices with the same system of files. The files are addressed by the hash of their content as opposed to a centrally-controlled location. The diagram below shows how nodes access data with IPFS vs the de facto HTTP protocol.

It is planned that IPFS could serve as the data storage layer of the Current Network. It is planned that Current will offer users Credits as an incentive to provide storage of uploaded files on the network powered by IPFS. If needed, Current may implement additional storage measures via services like Filecoin *(Endnote 23)* or IPFSstore *(Endnote 24)* where a negligible tariff per media item sold would be imposed on the creator and paid to whomever is hosting the content for the network on the aforementioned services.

In order for the system to operate, Current must also implement a logic layer, done via Ethereum smart contracts. The contracts provide creators with the appropriate payments for their content in a fair and transparent way. To control access to IPFS-hosted content, we intend to employ an asymmetric encryption mechanism. All files uploaded to the Current IPFS network are planned first to be encrypted by the Current Foundation's public key. This can be performed in the iOS application, and avoids any single point of failure.

When a user wants to download a track, the IPFS address hash is planned to be sent to the Current API which will load the file from the IPFS network and decrypt it using the Current Foundation's private key. It is planned that the track will then be re-encrypted using the user's public key, and then provided to the user.

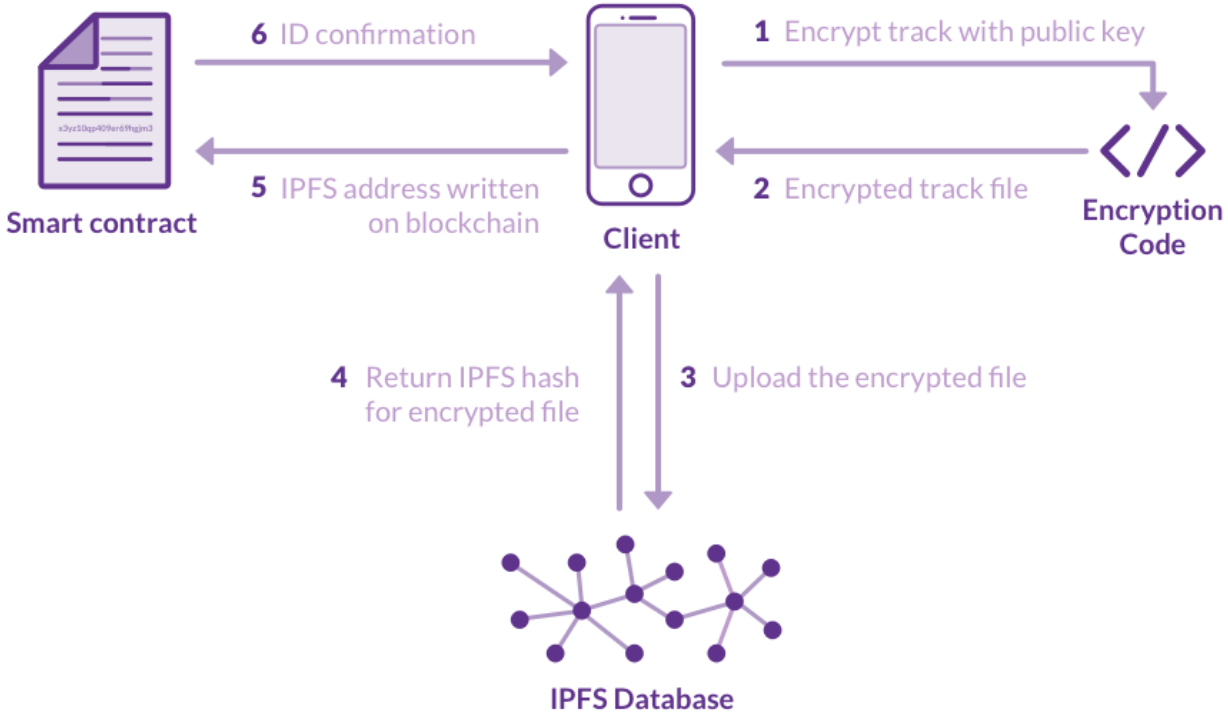
This final step presently requires interaction with our centralized API. While we have focused on building a stable, redundant system we recognize that this presents a possible single point of failure in the network. Before this phase of the platform is implemented (est. Q1, 2019), we expect to see advancements in the IPFS platform to allow for more fine-grained access controls to be included in the file system. This would allow us to employ a fully-decentralized content distribution system.



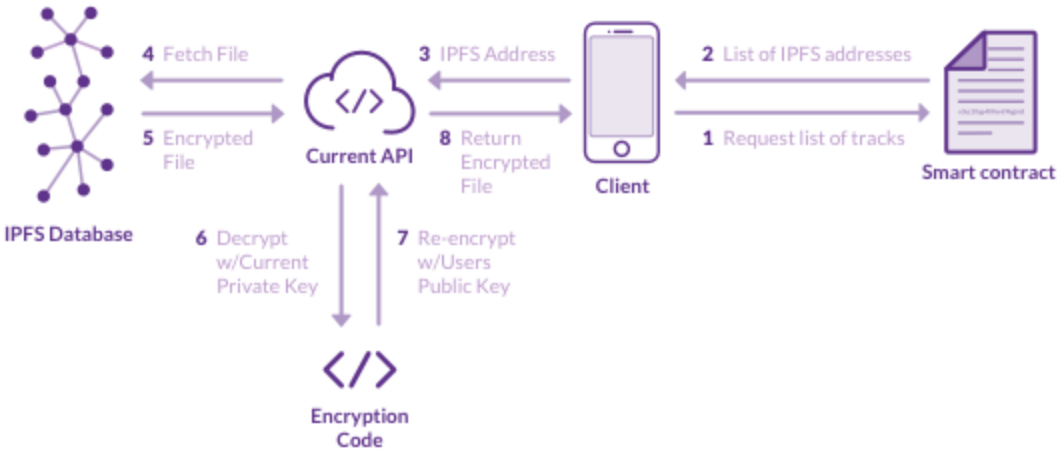
Centralized vs. Decetralized Computing Model

A centralized architecture represents a multiple client to single server model where the server computer is the one where all of the major processing or storage is done. A decentralized architecture allows for processing to be distributed among multiple computeing nodes with no single server machine solely responsible for all the processing.

Uploading Content



Accessing Content



Endnotes

1. "Current - The World's First Universal Media Platform." Current.us. March 2017. Accessed November 29, 2017. http://www.current.us/. Currently integrating 8 network's: YouTube, Spotify, Apple Music,, 8Tracks, Internet Radio, Facebook, and Twitter.

2. Hachman, Mark. "The price of free: how Apple, Facebook, Microsoft and Google sell you to advertisers." PCWorld. October 01, 2015. Accessed November 29, 2017. https://www.pcworld.com/article/2986988/privacy/the-price-of-free-how-apple-facebook-microsoft-and-google-sell-you-to-advertisers.html.

3. Tirico, Klaudia. "Study: Gen Z Wields $44 Billion In Buying Power Featured." Study: Gen Z Wields $44 Billion In Buying Power - Retail TouchPoints. January 23, 2017. Accessed November 29, 2017. https://www.retailtouchpoints.com/features/industry-insights/study-gen-z-wields-44-billion-in-buying-power.

4. The initial wave of token sales bred complex concepts that require a high level of technical comprehension with future communities in mind rather than focusing on adoption strategies.

5. Plaugic, Lizzie. "Google released a guide to teens - who suspiciously love Google." The Verge. April 03, 2017. Accessed November 29, 2017. https://www.theverge.com/2017/4/3/15165224/google-guide-to-teens-its-lit-gen-z.

6. Klotzbach, Chris. "Enter the Matrix: App Retention and Engagement." Flurry Blog. May 12, 2016. Accessed November 29, 2017. http://flurrymobile.tumblr.com/post/144245637325/appmatrix.

7. Beal, Vangie. "What is API - Application Program Interface?" Webopedia. Accessed November 29, 2017. http://www.webopedia.com/TERM/A/API.html.

8. Krishna, Dilip, Nancy Albinson, Yang Chu, Joseph Burdis, Ed Hida, Ryan Hittner, Priyanka Priyadarshini, Martin Rogulja, Irfan Saif, and Tanmay Tapase. "Managing algorithmic risks Safeguarding the use of complex algorithms and machine learning." Deloitte Risk and Financial Advisory, 2017. 2017. Accessed November 29, 2017. https://www2.deloitte.com/content/dam/Deloitte/us/Documents/risk/us-risk-algorithmic-machine-learning-risk-management.pdf.

9. C.S. "Raiden Network - Fast, cheap, scalable token transfers for Ethereum." Raiden Network - Fast, cheap, scalable token transfers for Ethereum. September 2017. Accessed November 29, 2017. https://raiden.network/.

10. "Conversion Rates - Purchasing Power Parities (PPP) - OECD Data." TheOECD, 2012, data.oecd.org/conversion/purchasing-power-parities-ppp.htm.

11. Bolt, Wilko, and Maarten R.C. Van Oordt. "On the Value of Virtual Currencies." On the Value of Virtual Currencies, August 2016, 0-44. August 2016. Accessed November 29, 2017. http://www.bankofcanada.ca/wp-content/uploads/2016/08/swp2016-42.pdf.

12. Fisher, Irving, and Harry G. Brown. The Purchasing Power of Money: Its Determination and Relation to Credit, Interest and Crises. New York, NY: The Macmillan Company, 1922. September 2011. Accessed November 29, 2017. https://eet.pixel-online.org/files/etranslation/original/Fisher%20The%20Purchasing%20Power%20of%20Money.pdf.

13. Lazaroff, Leon. "Here's how Pandora and Spotify plan to finally make money." TheStreet. September 20, 2016. Accessed November 29, 2017. https://www.thestreet.com/story/13721011/1/here-s-how-pandora-and-spotify-plan-to-finally-make-money.html.

14. "Buffer's Transparency Dashboard." Default to Transparency. 2017. Accessed November 29, 2017. https://buffer.com/transparency.

15. "Building Fundamental Value." Kin White Paper, Kik Interactive, Inc. May 2017. Accessed November 29, 2017. https://kin.kik.com/papers/Kin_Whitepaper_V1_English.pdf.

16. “Basic Attention Token (BAT) Blockchain Based Digital Advertising” Basic Attention Token White Paper, Brave Software. May 29, 2017. Accessed November 29, 2017. https://basicattentiontoken.org/BasicAttentionTokenWhitePaper-4.pdf.

17. "Steem An Incentivized, Blockchain-Based, Public Content Platform." Steem White Paper, Steem.io. August 2017. Accessed November 29, 2017. https://steem.io/SteemWhitePaper.pdf.

18. Dredge, Stuart. "Spotify Financials Reveal A €539.2m Net Loss in 2016." Spotify Financials Reveal A €539.2m Net Loss in 2016. July 15, 2017. Accessed November 29, 2017. http://musically.com/2017/06/15/spotify-financials-reveal-e539-2m-net-loss-2016/.

19. "SEC Filings." Pandora - Investor Relations. October 27, 2016. Accessed November 29, 2017. http://investor.pandora.com/.

20. Thaler, Richard H. "Mental accounting matters." Journal of Behavioral Decision Making. July 19, 1999. Accessed November 29, 2017. http://onlinelibrary.wiley.com/doi/10.1002/(SICI)1099-0771(199909)12:3%3C183::AID-BDM318%3E3.0.CO;2-F/abstract.

21. Shampanier, Kristina, Nina Mazar, and Dan Ariely. "Zero as a Special Price: The True Value of Free Products." Marketing Science 26, no. 6 (December 14, 2004): 427-757. November 1, 2007. Accessed November 29, 2017. doi:10.1287/mksc.1060.0254.

22. Ingham, Tim. "Spotify's Average Subscriber Paid 5% Less Last Year - But Premium Conversion Grew 7%." Music Business Worldwide. June 03, 2016. Accessed November 29, 2017. https://www.musicbusinessworldwide.com/average-spotify-subscriber-paid-5-78-month-2015/.

23. “Filecoin: A Decentralized Storage Network” Filecoin White Paper, Protocol Labs. Aug 14, 2017. Accessed November 29, 2017. https://filecoin.io/filecoin.pdf.

24. "IPFSstore IPFS File Hosting." IPFSstore. 2017. Accessed November 29, 2017. https://ipfsstore.it/about.php.