Sight

A blockchain protocol for ad-free monetization of online content

Noah Gallant (noah@sight.network)
Sophie Stadler (sophie@sight.network)

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Abstract

The modern individual spends an enormous portion of their day consuming internet content. From news to social media, funny videos to digital art, and platforms like Instagram, Facebook, Google and Twitter, some of the largest companies in the world make their profit and draw users from their content. Largely, the distribution of this content is subsidized by advertisements. These advertisements are sometimes obvious, and sometimes integrated into media platforms through “sponsored content.” Furthermore, efforts to enhance their profitability have led to complex, computationally heavy technologies to identify users and personalize advertisements. We feel this is a burden on the effort to produce meaningful and valuable content for consumption, and detracts from the experience of consumers. We have invented a technology to allow for the generation of profit for content creators without the use of advertisement or explicit monetary contribution of individuals, also known as paywalls. The technology, called the Sight Network, rewards media platforms for each unique user with a unique SIGHT token. These tokens are generated within the Ethereum blockchain ledger and can then be transferred to other cryptocurrencies. The value of the token is driven by the implicit value traders see in the ability to generate unique visitors through valuable content. This process is analogous to the mining protocol within Bitcoin and Ethereum, whose currencies rely on the difficulty of solving cryptographic problems to create new coinage, and the speculative future value of that coin. We hope to create a better Internet through this technology, and allow creators to separate themselves from advertisements or subscribers as the only means of revenue.

Background

Online Publishing

Content is placed on the internet for mass consumption for a variety of reasons. We believe quality content holds an intrinsic educational, informative, or artistic value. However, in order to sustain the production of Internet content—including server, marketing, research, editorial, and creation costs—content creators and distributors rely on advertisements to generate revenue. This system creates a method for content consumers to interact with content without having to pay the creator for it. A majority of media and news is consumed on and through platforms which are aggregators, such as Facebook (https://www.americanpressinstitute.org/publications/reports/survey-research/print-vs-digital/). Facebook's economic interest, however, is in providing its users with content that maximizes its *own* advertising revenue. This is accomplished via advertisement related to third-party content and by keeping users on its platform through catered content. This catered content is problematic in several ways; for example, it has led to issues with filter bubbles limiting nuanced political and economic decisions (see https://qz.com/913114/bill-gates-says-filter-bubbles-are-a-serious-problem-with-news/). For content creators, a major problem lies in the fact that the content itself is not directly monetized unless it (1) has a direct sponsorship (e.g. is selling a specific product) or (2) can drive users off of the aggregator to view advertisements on the publisher's own platform. We refer to this content—which remains on an aggregator's platform, with direct sponsorship—as "shallow content." Hence, on an aggregator such as Facebook, we see that the ability for content creators to effectively engage or provide something intentional to the user diminishes with the depth, or "engagement value," of the content. Furthermore, this is distinct from video content (e.g. YouTube), which, if popular, is frequently interrupted or preceded by ads in order for creators to generate profit. So, in the case of YouTube—a direct platform for creators to engage users—the more resources that are put into creating the content, the greater the necessity for the content to be interrupted by advertisements or sponsorships.

There are many downfalls to the current state of internet advertisement. The main issues we seek to address are the diminishing value of content with the advent of internet advertisements, and the privacy and computational issues involved with creating an advertisement scheme for web content. Firstly, we believe that the increasing transition of the internet towards shallow content consumption as outlined above diminishes the true value and potential of the web. It should be stated that our belief lies in an Internet that allows for people to easily and freely engage with whatever content they choose; however, we feel that the paradigm of internet monetization drives users away from engaging and interesting content. Furthermore, the systems in place to optimize internet advertisement have arguably infringed on human privacy rights. A system whereby the majority of a *user's* computing power may be put toward computation involving the tracking of their

preferences and identity to optimize their advertisement "profile," instead of the content itself (see: https://twitter.com/paulcalvano/status/1000094333524201473) does not serve its users. We hope to create a system whereby privacy and computational power are not forfeited so that content creators can generate profit.

The issue with monetization of content is further complicated by large, decorated, "deep content" creators such as *The Atlantic* (theatlantic.com), *The New York Times* (nytimes.com), *Wired* (wired.com) and *Nautilus* (nautil.us), deciding to place their websites, for the most part, behind paywalls. "Deep content" in this case refers to content which exists on its own, visited platform though might be found through aggregation. These content platforms have historically struggled to effectively monetize their own content (see: https://www.theatlantic.com/technology/archive/2017/11/the-big-unanswered-questions-about-paywalls/547091/). As *The Atlantic* suggests and demonstrates, these deep content producers have made a decision to put their some of their great content behind a paywall due to the difficulty and perceived content value diminishment of adding advertisements to their platform. As our effort is to create a more engaging, valuable internet, we would like to:

1. encourage the creation of deep content
2. allow for the maximal engagement with this content
3. reward creators so they may continue to create

ADDITIONAL LINKS

- https://www.theatlantic.com/magazine/archive/1997/06/how-powerful-is-advertising/376889/
- http://www.jstor.org/stable/43550450
- https://www.opendemocracy.net/ourkingdom/justin-lewis/power-of-advertising-threat-to-our-way-of-life
- http://misrc.umn.edu/wise/2014_Papers/5.pdf
- https://digiday.com/marketing/audience-based-planning-next-battleground-media-agencies/
- https://digiday.com/media/know-cookies-guide-internet-ad-trackers/
- https://basicattentiontoken.org/BasicAttentionTokenWhitePaper-4.pdf
- https://arstechnica.com/information-technology/2018/01/now-even-youtube-serves-ads-with-cpu-draining-cryptocurrency-miners/

Cryptocurrencies

While quite popular amongst traders and technology enthusiasts, cryptocurrencies are generally not well understood amongst the public. Bitcoin is largely seen as the first and currently the most well-known cryptocurrency. The technology which enables its value and transaction is detailed in its white paper (see: https://bitcoin.org/bitcoin.pdf). For specifics on its current protocol one should visit its GitHub page: https://github.com/

bitcoin/bitcoin. Bitcoin is important as while the concept of a cryptocurrency was previously established, most accept it as the first working example. Bitcoin's underlying mechanism is the blockchain, which is, simply put, a shared list of transactions. This shared list is continually amended as transactions are completed. This list is maintained through the act of "mining," in which a "node" in the chain (a computer running the Bitcoin software) confirms transactions and their order, thereby assuring that no one transfers more than they have. This mining can only be done by solving an increasingly hard cryptographic problem, which continually affirms the order of the chain. For a great explanation of the blockchain protocol, visit: https://www.youtube.com/watch?v=bBC-nXj3Ng4.

Importantly, Bitcoin helped to establish a technical system for consistent, trustworthy value transfer. Bitcoin does this through rewarding the quickest to solve the cryptographic problem as detailed above. This is a clever solution, though has its pitfalls. This means that the profitability of mining is reliant on the cost of electricity and the ability of a computer to effectively solve these cryptographic functions. This is problematic for several reasons. Firstly, those who have an advantage in computational power and energy cost will be able to mine more effectively than others, thereby gaining resources at a higher rate and thus being able to most quickly improve their advantage through investment. Secondly, this protocol has disastrous effects for the environment (see: https://www.weforum.org/agenda/2017/12/the-hidden-cost-of-bitcoin-our-environment). Moreover, there have been historical disagreements about the technical direction of Bitcoin, causing separate versions to emerge and confusing investors and enthusiasts. Seeing as the value of Bitcoin is highly correlated with the market capitalizations of all cryptocurrencies, these deficiencies are worrying for those who are passionate about the potential of blockchain to transform our world. We must ask though, why do all cryptocurrencies seem to be intrinsically tied to Bitcoin's value, and above all, why do Bitcoin have any value in the first place?

Understandably, the difficulty of Bitcoin creation serves as the foundation for its value. This is a basic tenet of most popular economic monetary theories (https://www.mises.org/sites/default/files/Principles of Economics_5.pdf). If it were easy for anyone to acquire or replicate Bitcoin, it would of course lose all value. However, as the technical aspects of why it is difficult to do so are quite difficult to grasp, one can understand the reluctance of the public to place value in Bitcoin. Yet, while its mining protocol serves as the foundation for why it has value, the actual relative value of Bitcoin is driven by speculation, as it is fundamentally traded as a security. Technology enthusiasts and traders see Bitcoin as a financial instrument completely separate from governmental influence, and therefore as something with secured value external to the state. This helps to drive Bitcoin's speculative value. Thus, as a whole, **we can describe any cryptocurrency's value as a combination of the difficulty of its creation, and its perceived future social value**.

Currently, there exist blockchain protocols other than Bitcoin which offer more sound technologies to maintaining value and allowing for innovation using its technology. One of the most promising and prominent examples of such is Ethereum. Ethereum is

fundamentally similar to Bitcoin in its use of a blockchain, but additionally allows for processes to be "run" on its system, called the Ethereum Virtual Machine (EVM). Ethereum currently provides a standardized protocol called ERC20 for deploying new tokens on its platform (see: https://theethereum.wiki/w/index.php/ERC20_Token_Standard). The purpose of this functionality is to allow for new tokens to be created with different mining and distribution systems. This protocol allows for innovative technologies to encourage certain technological or social behavior with token rewards that are maintained on the Ethereum blockchain. As such, Ethereum allows for not only the circumvention of the mining protocol which makes Bitcoin unappealing, but also the creation of exciting new technologies.

ADDITIONAL LINKS

- https://blog.golemproject.net/the-economics-of-the-golem-network-token-d64c1a50b1d5
- https://www.investopedia.com/ask/answers/100314/why-do-bitcoins-have-value.asp
- http://www.jstor.org/stable/24292130
- https://www.forbes.com/sites/jeffreydorfman/2017/05/17/bitcoin-is-an-asset-not-a-currency/
- https://www.bankofcanada.ca/wp-content/uploads/2016/08/swp2016-42.pdf.

Solution & Implementation

Mission

We would like to provide an alternative form of content monetization—an alternative to advertisements. As part of this goal, we look to support what we see as quality content defined by the following criteria (subject to revision):

1. Does not hold the intention to mislead
2. Holds informative or artistic value
3. Does not implicitly or explicitly advertise non-relevant products

Content is placed on the internet for mass consumption for a variety of reasons. As stated, content creators largely believe in the value of spreading media for its educational, informative or artistic value. As a result of economic benefit, there is an increasingly large portion of Internet content that seeks to draw viewership in the interest of gaining advertisement revenue. **We believe that the value of content stretches beyond its ability to draw viewership**. Ultimately, the public decides whether or not content is of value, and we design our protocol around that choice.

In summation, we seek to design a blockchain protocol which allows for creators to be rewarded for valuable content without directly charging users or running advertisements. Furthermore, it should be the consumer's decision as to whether or not the content is "valuable."

Network

Overview

The solution which we hope to implement is a crypto-asset rewarded in the form of SIGHT tokens to publishers per verified viewer. The reward system will act as a minting system whereby new tokens are created on each view instance. As determined in **Background**, the value of this token will rely on two things: the effort and difficulty of its creation, and its perceived future value. We believe that this mining protocol provides sufficient difficulty of creation to make for an effective value-creation scheme. Furthermore, the limitations placed on types of publishing, and future expansion of capabilities of the network elicit a proper speculative value for maintaining an ideal price point for publisher and network profitability.[1]

[1] It is worth noting that market capitalization will thus be directly determined by the number of publishers in the Sight Network and not necessarily a figure which represents the overall token value

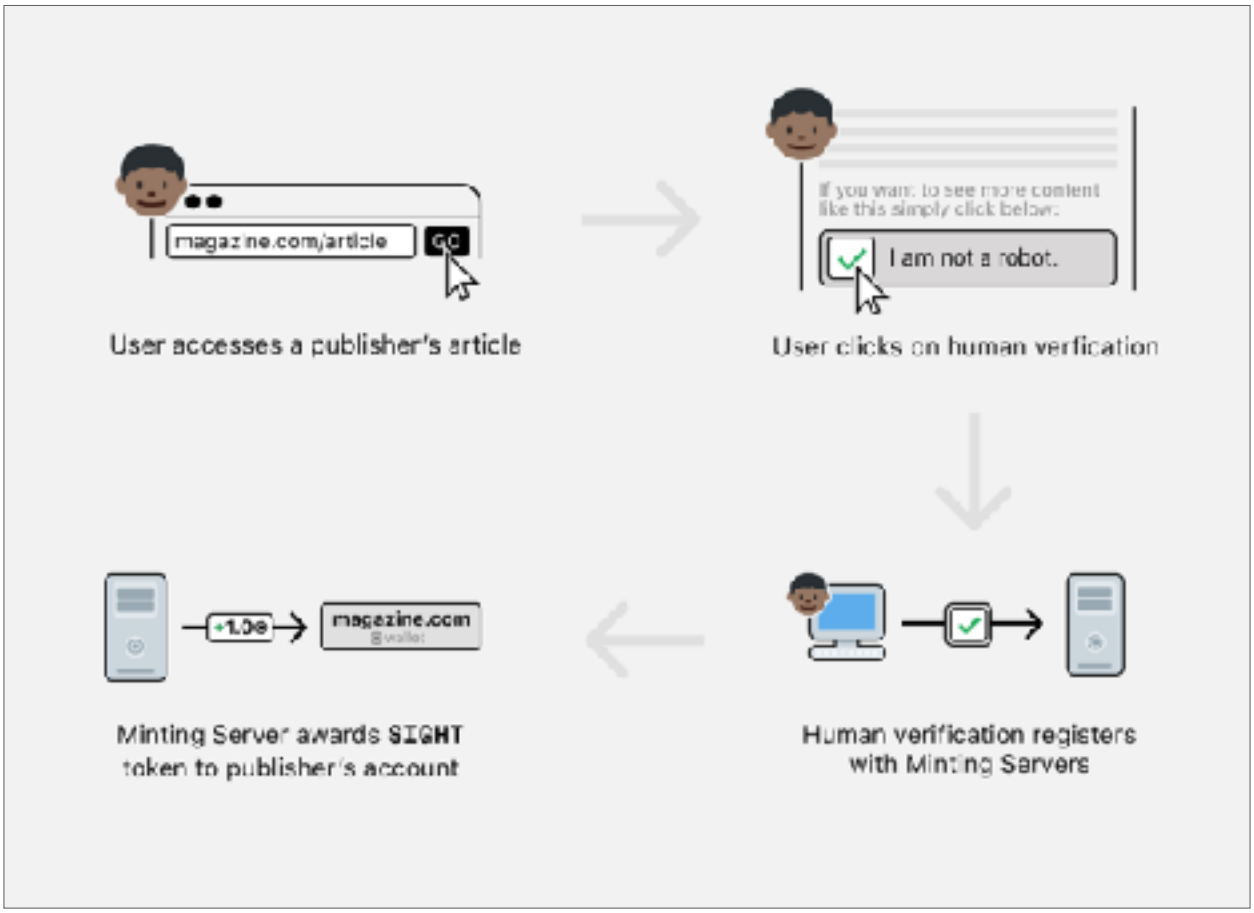

Diagram of the overview of the Sight Network minting protocol

Token Protocol

As covered, Ethereum is a blockchain protocol for deploying "smart contracts." For the purposes of the Sight Network, it allows for the creation and maintenance of a token asset that is maintained in a decentralized manner. Essentially, this means that the Ethereum blockchain handles the transactions and creation of new coins. Additionally, the Ethereum network allows for a token owner who can mint and reward new tokens. Furthermore, the ability to use the ERC20 protocol allows for additional integration into the crypto-asset trading marketplace. Ethereum provides a sensible platform for the SIGHT token to foreseeably exist on.

Minting & Value

While Ethereum provides an ideal framework for the token to exist on, the minting will be handled by an open source platform maintained by the Sight Network. Until modern browsers adopt the functionalities provided by MetaMask (see: https://metamask.io) and similar technologies, which allow for widespread access to decentralized Ethereum applications, the minting process will take place on centralized Sight Network servers

subsidized by a portion of the minted tokens. This scheme is practical for several reasons: it allows the Sight Network to more effectively monitor and audit registered views provided by our publishers, and additionally allows for easier integration of new publishers who follow platform guidelines and removal of those who do not.

There is precedent for the success of similar, centralized mechanisms for token dispersion; one such example is the STEEM network (see: https://steem.io). While STEEM provides an interesting solution to a similar problem the Sight Network is attempting to tackle, the mechanics of token distribution, the rigidity of implementations, and the ability for bots to leverage the system for profit make it ill-suited for widespread publisher use. Similarly, the BAT network provides a mathematically sound and interesting solution to reducing ad-load; however, rather than controlling the mining protocol, the general internet user must engage with different software in order to make the system effective for publishers (see: https://basicattentiontoken.org). **The Sight Network was conceived and continues to be developed based on human-centered design principles** (see: http://www.designkit.org/human-centered-design). As such, the effort required of general internet users is minimized and the limits of network participation are specifically designed to eliminate exploitation of token creation. Moreover, the token value by definition represents the social of creating content good enough to attract and encourage user promotion and engagement, along with the speculative future value of this generation. Often included in the price point determination is the spending and trading value of an asset. In the case of SIGHT tokens, being an ERC20 token allows for frictionless conversion to other crypto-assets, including fiat-tied tokens such as USDT and the coming Circle USD through a variety of exchanges.

The final component to assure the value of SIGHT tokens for current publishers is to create a scheme for securing the supply and demand of the coin (see: https://www.quora.com/Why-are-almost-all-the-cryptocurrencies-dropping-March-7). This is a pivotal, technical aspect to the token which is infrequently considered in crypto-asset protocols. We foresee publishers seeking to convert quickly to fiat in order to pay employees in a tax-friendly way. However we seek to encourage not only trust in the value of the token—which we believe our system has been optimized for—but to further incentivize holding the token. This is crucial to balancing the supply and demand of the asset in order to promote price consistency. The methodology to encourage publishers to keep reserves in tokens is through adding interest to publisher's SIGHT token wallets on constantly per token amount. The interest will not be indefinite however as this will likely cause token value inflation- instead the token value will asymptotically mature towards its "full value" over time. This is the general approach; however, due to technical and economic limitations with constantly updating the publishers' wallets, the interest calculations and payments will likely be made on a monthly basis based on calculations from Sight Network servers.

Utility

Whether the SIGHT token is a utility or security is an important distinction (see: https://cointelegraph.com/news/legitimising-the-ico-token-finding-utility-over-security). We categorize the SIGHT token as a utility token for a variety of reasons. Primarily, it is because the SIGHT token is rewarded directly by users for content they see as valuable. In this sense, the minting process is actually a reward for a good that users may find on the Internet. The definitive answer to the question is often an important legal distinction. An important point in our roadmap, and utility of the SIGHT token, will focus on adding new publishers to our network. While initially publishers will be partnered with the Sight Network organization in order to promote the platform and allow for beta testing, this system is necessarily undemocratic when viewing the internet content as a whole network of publishers and consumers. Hence, there will ultimately be a decentralized voting platform whereby if a majority of individuals within a specified time period vote to add a new publisher, they will be given access to the Sight Network. While the voting itself is conducted on an individual basis, disconnected from SIGHT token values, publishers or creators must register using a designated amount SIGHT tokens in order to become part of the voting process[2]. Seeing as the SIGHT token is not an investment-based commodity, but derives its value from utility rather than speculation, we anticipate that growing interest in the coin will confirm its usefulness.

Coin Release

In order to establish a reasonable price point for the token, to establish funds for running the minting servers, and to provide reserves, a number of SIGHT tokens will be released to general public. There is a necessity for public access to SIGHT tokens so that holders are able to submit new publications and creators to be accepted into the system. Additionally, determining the social value of such a good is important to the success of the system. Precise values on the Coin Release will be detailed upon publisher research and the publication of the Coin Release date.

Additionally, some might wonder why conventional fundraising methods are not used for Sight Network costs. We believe that the end goal of our platform should be a sustainable, decentralized system and, as a result, offering stake to venture investors would not be in the interest of the system. Moreover, while there are other fundraising options, the Coin Release is practical and will help us determine demand and minting rates for the future.

Auditing

An important component of our system is the trust in reliable minting processes of those engaging in the Sight Network. Due to this requirement, the Sight Network organization will perform audits of the “human validation system (HVS),” which, until a practical decentralized solution is implemented, will be Google’s reCAPTCHA, in addition to the individual mining and content production of our publishers. This will mean checking the

[2] Registered non-profits are exempt from this requirement

content output against our “terms of good content,” and performing analysis of the code usage and implementation on the publisher side. It should be noted that the publisher themselves has no control over the HVS confirmation of users due to the technical protocol demonstrated below.

Minting Split

As a product of the nature of smart contracts, upon the successful creation of a new SIGHT token on behalf of a publisher, at least 50% of the amount of the token created must go into the Sight Network organization’s ownership in order to prevent from a 51% attack (see: https://en.bitcoin.it/wiki/Majority_attack). These coins will only be used to maintain the majority ownership of the overall level to keep the minting process controlled by the Sight Network. Furthermore, a much smaller proportion of the minted token will go to the operational costs of the Sight Network organization. These specific values will be decided in conjunction with our initial publishers but will be constants in the duration of the Network.

Publishers

Initial Publishers

In order to establish trust in the Sight Network brand, several trusted publishers of interesting deep content will be part of the Coin Release and have beta access to the mining system. The partners will receive a portion of the profit of the Coin Release in exchange for being partners.

Entrance System

A major component of the Sight Network publisher system is the decision model for allowing new publishers onto the platform. This is specifically where the utility of the SIGHT token is established. The Sight Network concept establishes Internet content as a connected system of reward; however, the technical requirements and growth rates to maintain system value mean that the number of publishers who enter the system must be controlled. Further, the readership size of a potential new publisher is a necessary factor in determining the feasibility of their entrance into the system. Hence, in order for new publishers to enter the *voting* system after its initial launch and buffer period, they will have to pay the Network in SIGHT tokens an amount proportional to their current viewership. This will mean using an approved viewership tracking protocol and using these values to generate an entry price-point for the network. More technical and operational details will come as the system is developed. If the publisher is not voted to be accepted, their SIGHT tokens will be not be returned, but instead all tokens will be taken out of circulation to regulate supply.

Human Verification System

A critical part of the success of the Sight Network is the engagement of users with the designated system for verifying identity. This experience largely determines the mining rates and efficacy of integrating Sight Network into modern web publishing platforms. As previously detailed, we do not believe pure viewership directly translates to content value. Hence, the human verification system (HVS) will require (1) a one-time verification of identity using single sign-on and (2) a single button push from the user (likely via Google reCAPTCHA) to verify their non-robot status, and that they like the content. Examples of the format are shown below. The system, moreover, should therefore not prohibit access to the content by requiring the user verify before reading or viewing the content.

Engagement Mission

We believe that the advent of content aggregators such as Facebook—which dominates the attention of internet users and attempts to keep them on-site to increase ad revenue—is detrimental to publishers making valuable, deep content. Furthermore, Facebook's product is not designed for content discovery, which makes it troubling that a majority of internet users spend their time looking for content on Facebook (see Online Publishing). However, it seems that with the resurgence of Twitter and Reddit, which are products more focused toward explicit content discovery through link sharing, internet users do indeed value deep content. As such, we will do our best to promote those platforms that allow for access to engaging content and do not creating addictive ad-pushing schemes.

Current Timeline

The following timeline shows the technical, product and design concerns for creating a sustainable and effective the Sight Network. Each item is of importance and will be continually developed but the order of focus is as follows:

Alpha

1. Initial publisher agreements

Once an entity is established for employing developers and managing the finances and auditing of the Sight Network, publishers must be found to support the Coin Release. This is an important step toward creating a legitimate network, and will allow for further research and development of the platform on their behalf. With publishers, the minting rates and Coin Release split will be determined and presented to the public.

2. Product announcement

The product announcement is an important step in establishing the Sight Network as a trusted brand and to draw interest for the Coin Release.

3. Coin Release

Beta

4. HVS v1.0

Deployment of the human verification system is a vital step for the network. Using resources from the Coin Release, minting servers will be deployed and the minting code released as a beta for public feedback. The beta version of HVS will likely use an external non-robot verification system such as Google’s reCAPTCHA.

5. Publisher portal

The development of a publisher portal to access statistics for token generation and their wallet and interest information along with guides for safely trading their tokens will be set up.

6. System audits

A period of development and system auditing will occur to optimize and secure the minting protocol.

7. Entry System beta release

The release of the beta for entry system will allow for new publishers to enter the network. Initially the new publisher Entry System will allow a limited number of publishers and voters.

Initial Release

8. Entry System release

Upon the Entry System release, the voting system will be opened to general users. Technical details will be released ahead of time.

9. HVS v2.0

An alternative HVS system is envisioned which uses a decentralized or Sight Network owned algorithm.

Platform Release

10. Content platform integration

A version of the minting protocol for a content aggregator platforms will be developed and deployed to better suit the Sight Network for monetizing individual creators on platforms such as Vimeo and Bandcamp.

Leadership

We are a team of designers and developers passionate about using novel research to create new and positive internet technologies. Sight Network is an effort to revolutionize how Internet content monetization works through blockchain technology. Our leadership team is listed below.

Noah Gallant CEO

Noah is a successful designer and developer. He serves as Lead Developer for Nautilus Magazine, and in so has an intimate knowledge of the internet publishing industry. His passion is using research and technology to find human-centered solutions to complex social problems.

Sophie Stadler CTO + Lead Designer

Sophie is a software engineer and designer based in New York City. Her work with Nautilus Magazine and independent interests have made her passionate about the state of internet media. She believes in creating equitable systems that make the benefits of technology accessible to all.

References