



Decentralized News Network

News by the People, for the People

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Abstract

A decentralized news network backed by incentives for individuals to create, review, and consume news. The primary innovation of blockchains is a verifiable and cryptographically secured global ledger that can lead to new types of incentive structures. Developers can take advantage of Ethereum's blockchain to build applications that are not only architecturally and politically decentralized, but are underpinned by tokens of value. We propose a network in which writers produce political content that is reviewed by fact-checkers before being published on the network without the risk of being taken down. All parties involved in publishing a factual article will be rewarded with DNN tokens in a self-sustaining environment that thrives on tangible activity and accuracy of content rather than on advertising revenue and corporate interests.

BACKGROUND

In 1983, 90 percent of the U.S. news industry was owned and controlled by 50 different companies.¹ Thirty-four years later, 90 percent of American news coverage, whether read, watched or listened to, flows from just six media conglomerates: Comcast Corporation; News Corporation; The Walt Disney Company; Viacom Inc.; Time Warner Inc.; and CBS Corporation.

With this substantial level of corporate media concentration, big publications and networks demonstrate overt political leanings that are almost predictable, as they indulge their respective target audiences. Over time, this affects how well the public perceives current events, due to a high degree of confirmation bias that veers toward groupthink.

THE CURRENT STATE OF NEWS

The state of big media today is analogous to the type of scenario we see within the U.S. telecom and cable industries, little-to-no regulation or transparency, a handful of massive corporations presiding over an oligopoly, a noticeable lack of choices for consumer consumption, and an overall anti-consumer tilt that favors profits over quality and satisfaction. Consequently, because of all of this consolidation in power, the general public is led to believe that the media landscape is rigged to primarily accommodate the biggest and most prosperous players involved. According to The Economist, the overall concentration of ownership in IT, Telecom and Media is the highest amongst most U.S. based industries. This is a big part of the reason that “two-thirds of Americans, including a majority of Republicans, have come to believe that the economy unfairly favors powerful interests.”²

This leads to disastrous results. According to a September 2016 Gallup poll, Americans’ trust and confidence in the mass media “to report the news fully, accurately and fairly” has dropped to its lowest level in Gallup polling history, with just 32 percent saying they have a great deal or fair amount of trust in the media.³

Most corporations today, media-driven or otherwise, are motivated by overt political agendas which more or less mirror the aspirations of the establishment. Politicians competing for power desire to win favor through any means by vying for votes and taking big money donations from corporations and high net worth individuals. In the US, partisan media companies make substantial donations to political causes and have been doing so for decades, in order to gain a profound influence on election cycles.

According to the Center for Responsive Politics, “these organizations had — either through corporate treasuries, sponsored political action committees or both — donated almost \$7 million

¹ Columbia Journalism Review, Free Press

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<http://www.economist.com/news/briefing/21695385-profits-are-too-high-america-needs-giant-dose-competition-too-much-good-things>

³ <http://www.gallup.com/poll/195542/americans-trust-mass-media-sinks-new-low.aspx>

to political action committees and vaguely referenced ‘527 committees’ just during 2009 and 2010 and nearly \$38 million since the 1990 election cycle.” Typically, these donations have switched between Democrats and Republicans in back-and-forth cycles.⁴

All in all, while the bureaucratic establishment decides how to *set* the tone, the media frequently helps *dictate* it through large donations in exchange for political favors. This creates an endless cycle of powerful corporations and politicians passing the baton between one another, as they all enrich themselves further. These big bets are initially made by media companies so they can continue to consolidate their power, uninterrupted. In turn, their news becomes very skewed and one-sided in order to appease the political establishment and avoid a conflict of interest. The core values and principles of journalism are subsequently compromised in favor of biased and sometimes blatantly false coverage, that perpetuates the political atmosphere the media wants to cultivate.

Most importantly, the issue of ‘fake news’ has increased with each passing day. With the growth of social and blogging platforms, as well the internet as a whole, publishing has turned into an act that is both simple and instantaneous. At the same time, the lines between what is fake and what is real have blurred, as we race to distinguish fact from fiction. Publishing is now a fully democratized action, turning everyone into editor, which is equally as powerful as it is dangerous.

THE FACEBOOK EFFECT

Over the past decade, there’s been a big shift in the way people stay informed. Americans looked to daily newspapers and television for TV for much of their news. In the U.S. 62 percent of adults rely on social media for news.⁵

Among social media providers, Facebook has become a rival to the big suit-and-tie networks like CNN, Fox News, ABC, and NBC. Facebook has become a gatekeeper for much of the news that Americans consume online. Many traditional news outlets have morphed into being the so-called content pipelines for Facebook’s news factory.

Truthful and fact-driven news has been forsaken in favor of click-bait headlines and digital ad revenues. The general public’s understanding of current events has been immensely distorted. In fact, there are a large number of websites whose sole purpose is to drive the spread of flimsy and groundless stories. For them, integrity is derived primarily from click-rates and impressions, rather than factual reporting, as reported by The New York Times just after the 2016 presidential election.⁶

Reporters have come under increasing pressure to produce “clickbait” articles that pander to readers’ increasingly short attention spans. Content that is sensationalistic and exaggerated

⁴ <https://www.opensecrets.org/news/2010/08/news-corps-million-dollar-donation/>

⁵ <http://www.journalism.org/2016/05/26/news-use-across-social-media-platforms-2016/>

⁶ <https://www.nytimes.com/2016/11/25/world/europe/fake-news-donald-trump-hillary-clinton-georgia.html>

attracts more eyeballs and clicks than stories presented in a more accurate, thorough fashion. Partisan users share completely fabricated stories from fringe and alt-news websites, lending to confirmation bias. In some ways, social media, rather than improving, is contributing to political polarization and a lower quality of open conversation on the internet. According to Pew, 23 percent of Americans say they have shared a made-up news story, with 14 percent saying they shared a story they knew was fake at the time and 16 percent having shared a story they later realized was fake. Almost half said government, politicians and elected officials bear a great deal of responsibility for preventing made-up stories from gaining attention.⁷

The order and visibility of posts in Facebook's news feed is governed by a sophisticated proprietary algorithm, which has the ability to decide which posts to showcase over others. This amounts to the power to manipulate which posts users consume. The platform tries to choose posts that people are likely to read, like, and share with friends. Facebook hopes this will induce people to return to the site. This has the dangerous effect of turning Facebook's feed into a tabloid that sucks users in and gives them a place to to continue reading the same type of content. "Filter bubbles" refers to this phenomenon.⁸

Simply put, our viewpoints, when combined with the personalized tailoring of social media, give rise to echo chambers in which we are mainly exposed to beliefs and facts that are consistent with those we already hold. Consequently, this leads to confirmation bias and we unconsciously surmise that many others share our perspectives on issues of the world. A well-known Forbes experiment called *Blue Feed, Red Feed* delves deeper into these echo chambers that we all inhabit on Facebook.⁹

Much of the news content in the feed consists of the most attention-grabbing headlines, regardless of whether the articles are factual or important. Facebook's algorithm, as clearly witnessed with the recent glut of fake news, doesn't take into account whether a particular story is accurate or not. If it generates a lot of engagement, in the form of likes, shares, and such, it automatically gets moved to the top of the feed. And often, a sensational and blatantly inaccurate story will generate more engagement than a story that accurately explains an issue without exaggeration.

As a result, bigger news organizations are swayed negatively. Businesses trying to maximize the traffic to their articles are made aware that sensationalism attracts clicks and impressions, while accuracy does not. This huge demand for clickbait created by Facebook creates a false incentive for reporters, thus warping what we read and making us apathetic in the absence of facts. Close to two billion people around the world utilize Facebook as a major source of information and the network is exerting a substantial degree of control over the news we access on a daily basis.

⁷ <http://www.journalism.org/2016/12/15/many-americans-believe-fake-news-is-sowing-confusion/>

⁸ https://en.wikipedia.org/wiki/Filter_bubble

⁹ <http://graphics.wsj.com/blue-feed-red-feed/>

WHAT IS DNN?

Decentralized News Network is a political news platform that combines news creation with decentralized networks as a means to delivering factual content, curated by the community of readers, writers, and reviewers.

DNN will harness the power of the Ethereum blockchain to create infrastructure that is virtually impossible to infiltrate or take down. Since DNN is not centralized, it does not have a potential single point of failure. The platform's core purpose is to present political news as *accurately* as possible, free of any corrupt incentives or hidden agendas, which plagues most news corporations.

The DNN platform will focus on facilitating the dissemination of balanced and factual observation of current political affairs.

DNN's mission is to create political news content that is both empowering for its readers, as well as representative of the integrity of its writers. DNN aspires to become the most-trusted and democratic political news alternative to the mainstream media.

HOW THE BLOCKCHAIN CAN HELP

The Decentralized News Network will introduce a compensation model built on incentives and made possible by the Ethereum blockchain. DNN removes the need for advertisers because the platform will not source revenue from display ads. DNN will run as a network, fueled by the DNN token. Each action, which includes the writing and reviewing of an article, will be made possible by these tokens and linked to the Ethereum network. DNN's system works to incentivize writers and reviewers, in a self-sustaining and autonomous environment that leaves no room for corporate bias. Compensation is derived from the community's engagement, rather than external revenue streams such as native ads and reader subscriptions. In turn, there is no opportunity for corporate interjection, whether it is through sponsored content or elsewhere.

Furthermore, with the blockchain providing the foundation for the platform, DNN can transparently display how money is made and transacted behind the scenes, and for what reasons and to which parties tokens are distributed to. Ideally, the platform can create a new kind of transparency, dictated by a truly open and user-controlled environment for information sharing and consumption. By persisting the contents of published articles to a decentralized file datastore, and making references to these articles directly in ethereum smart contracts, we can ensure that every article is as immutable and everlasting as the ethereum network.

A blockchain-based news media platform such as DNN's has the ability to democratize traditional news media for several reasons:

Since the blockchain contains data in time-stamped blocks that chain together, being continuously added and archived, it becomes nearly impossible for outsiders to manipulate existing data or information within the distributed ledger.

Next, the blockchain decentralizes authority to publish content on DNN. There is no single source that controls the message and feel of published works, which is something that is all too commonly witnessed with traditional media. DNN is not tethered to any special interests or political agendas, nor is it vying for a substantial chunk of ad revenue, which put it in a category separate from most publications that are tied down to a bigger entity.

Lastly, the blockchain's core value rests on trust. The technology achieves a state of implicit trust, thereby securing a system where users don't need to know one another or be associated with a third-party intermediary to verify or confirm a transaction. It is implicit and autonomous—blockchain is the gatekeeper and enabler of all users' incentives on DNN.

WHY IS DNN NECESSARY?

The concept of decentralized news is not itself new. There were startups, like the now defunct Reported.ly, that have dabbled in community-driven, Internet-based news reporting and dissemination.¹⁰

The idea is that if news distribution were to function without any central authority, less importance would reside on media titans and there would exist a higher degree of autonomy and independence from the bottom-up, starting with journalists and ending at readers.

Distributors of news can act as nimble vessels for disseminating accurate information without any overseers but the community they serve, leading to greater integrity and a fearlessness to report.

At the end of the cycle, readers can focus on the content — the news — free of corporate influence and more transparent because of the power and function of blockchain technology.

Transparency in news can make way for a more democratic and freer thinking press.

In addition, suppression of information and mass censorship, by governments and corporations, is a threat to publishers and writers throughout the world. A gag order is a common tool used by governments to restrict publishers from disclosing certain details, regardless of how factual those details may be.

¹⁰

<http://www.forbes.com/sites/tomwatson/2015/01/05/inside-the-decentralized-news-network-reported-lys-n-ew-model-for-journalism/#1cb88a7a4a90>

The people have a right to the facts and the truth.

The core purpose of DNN is to provide truly factual news that is curated and community-moderated. Each piece of news published on the DNN will have been validated by a delegated group of reviewers to ensure that no published work contains blatantly untrue or inaccurate information. Each user acts independently and with the incentive to act in their own best interest.

HOW WILL DNN WORK?

DNN is comprised of four types of actors that each have key roles and contributions that together, make up the underlying functions and framework of the network:

WRITERS

Writers, or reporters, are individuals who submit political content in the form of articles. Whether the individual is a freelance journalist, casual blogger, or an average consumer of global news, he or she can contribute to the DNN.

However, since anyone can submit articles to DNN, getting published is not guaranteed.

To increase the chance of getting published writers should ensure that they closely comply with the DNN content guidelines to mitigate the chance of reviewers rejecting their piece due to infractions.

The DNN content guidelines are a set of agreed-upon best practices for constructing political pieces that are both comprehensive in scope and that convey the facts clearly and concisely. Articles that are submitted to DNN go through a series of stages before being submitted. Please refer to Figure 1.

REVIEWERS

Reviewers, or editors, read and vote upon submitted articles before an article is available for public consumption on the DNN's article feed. The review process includes basic tasks such as noting grammatical errors, pointing out inaccuracies and questionable statements, as well as content classification.

Most important, however, is that reviewers ensure articles adhere to the DNN content guidelines.

Reviewers do not have the ability to modify articles, but rather can accept (i.e. vote to have content published) or reject (i.e. vote to prevent content from being published) any written piece. To make sure that no single reviewer has the final say on whether or not an article should be publicly incorporated into the network, the network will assign seven random reviewers to validate

the article. The seven reviewers are chosen in a process called the *Review Selection Bid*, as seen in Figure 2.

All seven reviewers are completely unaware of one another's identities; they vote and leave feedback in complete isolation to avoid groupthink or any form of collusion.

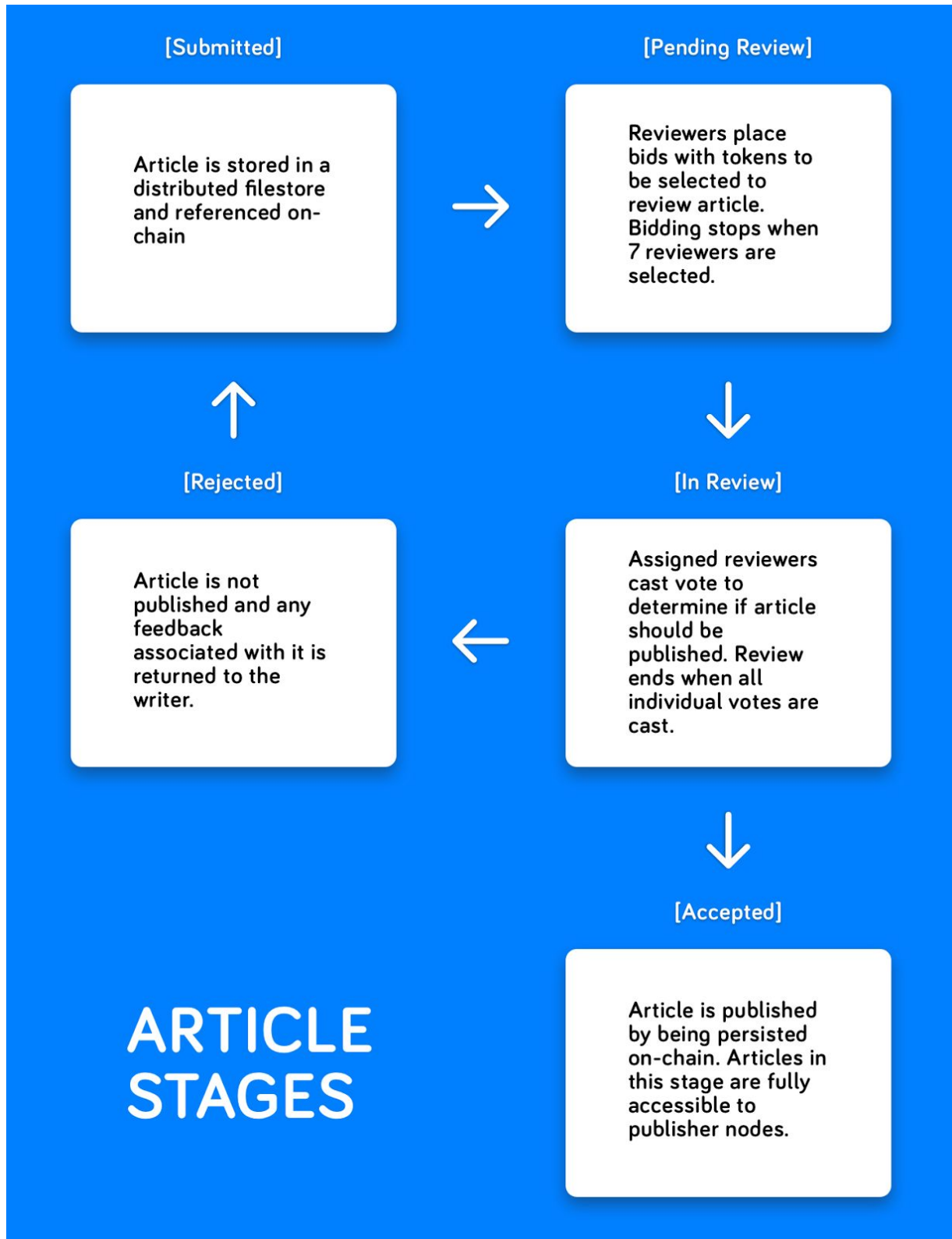


Figure 1: Article Stages

READERS

Readers are news consumers. Readers can comment, add notes, share, upvote, bookmark articles of interest, and denote articles they deem questionable. Unlike readers on traditional news platforms, readers on DNN play an active role in helping to shape the news they read, which includes participating in *Reader Suggestions* whereby article topics are put forward by you, the news consumer.

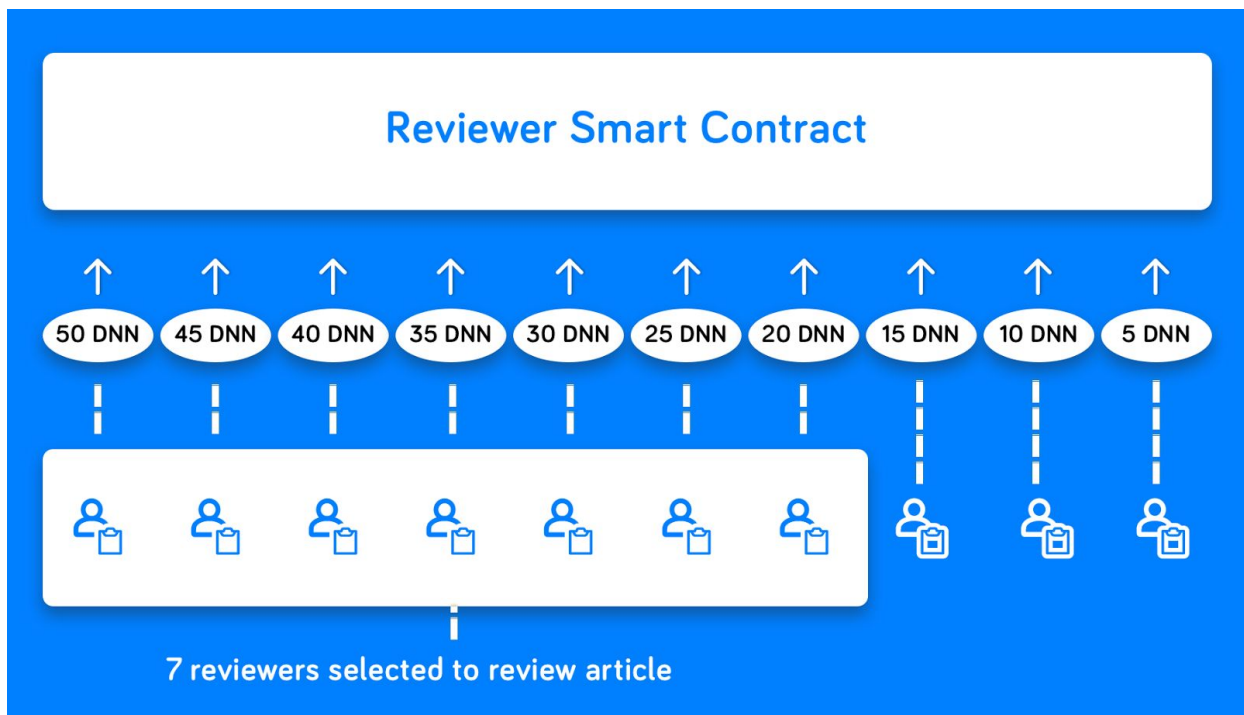


Figure 2: Reviewer Selection Bid

PUBLISHERS

Unlike readers, reviewers, and writers who are human actors of the network, publishers are server nodes which act as a proxy between human users and the DNN network residing on the Ethereum blockchain.

Specialized open source software consisting of the complete DNN user-interface and network interface, is bundled and installed on each publisher. One important point of note here is that publishers **do not** possess any article or user data, but instead, read from and execute commands to the DNN network.

Apart from communicating with DNN's network, publishers communicate with one another through a peer-to-peer protocol that makes use of the same cryptography behind Bitcoin and Ethereum. Using this peer-to-peer protocol, publishers are able to relay details about their state to nearby node hosts.

The main purpose for publishers is to provide an attack resistant transport for the DNN software, rather than host the DNN software on a centralized server, which introduces a significant point of failure.

Storing DNN's software on a decentralized network also allows the community to run and manage it without the need for an external facilitator or trusted intermediary.

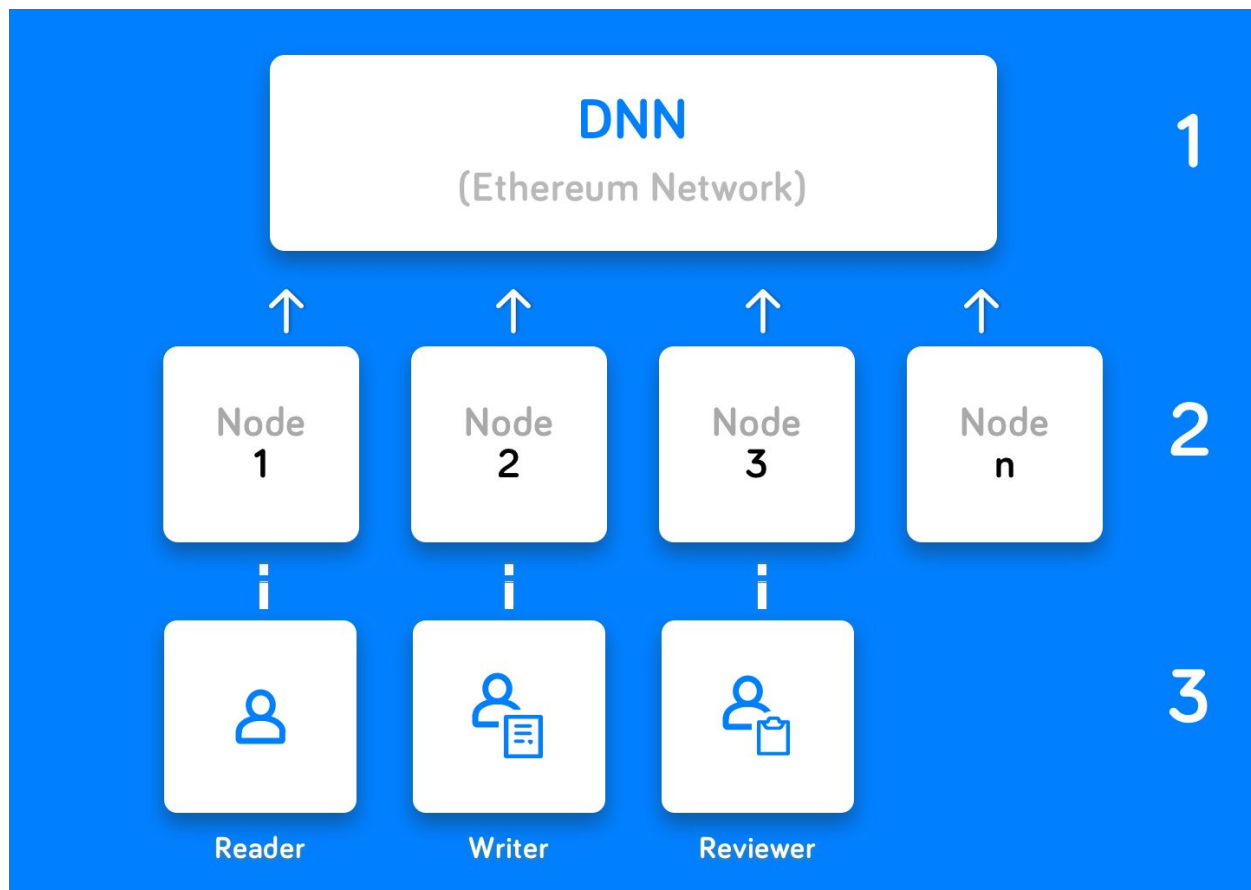


Figure 3: Publisher Nodes

INCENTIVIZING RIGHT ACTIONS

TOKEN

The central payout unit of the platform is called *DNN*. The DNN is divisible by up to 18 decimal places and can be obtained in the following two ways:

1. Buy it directly from an exchange
2. Earn it by contributing to the network

Writers, reviewers, and publishers are capable of earning DNN at the conclusion of the review process. The review process is considered to be finished when each reviewer has voted. The amount of DNN a user can earn is determined by the types of contributions they make to the network, (and in the case of reviewers, how many DNN they bid during the reviewer selection bid).

The payout of tokens is structured in a way that rewards the actions that ensure the articles in the feed remain as factual as possible and consistent with the platform's Content Guidelines.

DNN are used for a variety of things within the DNN network.

Writers use DNN to pay for the Writer Fee associated with submitting their article to the network. Once an article has been accepted, writers can earn DNN through the engagement generated by their article.

Reviewers earn DNN by determining whether an article should be accepted or rejected by the network.

Publishers earn DNN by hosting nodes on the network. Each time a review has completed, a small portion of tokens will be evenly distributed to each publisher node proportional to how many tokens the publisher node holds.

SUBJECTIVE MINING

Most blockchains that are available today use some form of Proof of Work or objective mining to introduce new tokens or coins into the platform. In a Proof of Work blockchain, miners race to validate blocks of transactions by producing cryptographic hashes with the goal of earning a payout from the coinbase transaction included in each newly mined block. Unlike objective mining, subjective mining involves the creation of tokens by the actions of token holders. In DNN's case, tokens get created proportional to the work contributed to the platform. The amount of tokens that are introduced into the platform is equivalent to the review process payout for writers (refer to "Review Process Payout for Writers").

PAYOUTS

READER PAYOUT

Readers can earn DNN by suggesting topics to writers. If an article that is focused on a suggestion is accepted, a portion of DNN generated from the review process will be given to reader who suggested that topic. Suggesting a topic requires any number of arbitrary tokens from the reader. The more tokens a reader gives per suggestion, the higher the bonus is for writers who construct articles about it, and the bigger potential payout they can earn. Readers can suggest topics during the reader suggestion period, which lasts for one week (refer to "Reader Suggestions"). Following the conclusion of the reader suggestion period, topics are presented to

writers for consideration. It is the responsibility of each reviewer to ensure that articles are tagged with the correct topic. Payouts from reader suggestions gets distributed proportional to the total amount of tokens a reader gave for that topic. For example, if a reader suggests a topic with 50 DNN, while the combined tokens for that topic is 1000 DNN, then the reader is entitled to five percent of the tokens set aside for reader rewards.

PUBLISHER PAYOUT

Publishers can earn DNN for hosting a node. Nodes help ensure that the DNN software is readily available to all participants on the network. Payouts for publishers comes from a portion of the reviewer process reward and are distributed to nodes proportional to their DNN token holding. The more DNN a publisher has, the higher cut they will receive from the tokens allocated from the review process for publishers.

WRITER PAYOUT

Writers can earn DNN in *four* ways — from upvotes on any of their published articles, through reader suggestions, on articles approved and additional DNN through those lost by reviewers during the review process.

Let us examine how the four different methods of writer payout work:

UPVOTE PAYOUT FOR WRITERS

Once an article is published, it becomes immediately available to readers. To show support and explicit approval for a particular article, readers can upvote it. Upvoting an article requires a small amount of DNN. The tokens are then transferred to the writer of the article.

The amount of DNN required to upvote will vary slightly depending on the Ethereum network cost and how much the reader is willing to pay.

The Ethereum network cost is the amount required to persist the upvote on the network. Upvoting can be seen as a form of ‘tipping’. The amount of DNN needed to upvote will be, at minimum, the required Ethereum network cost (paid in ether), plus a minimum of one-one hundredth of a DNN.

The point of upvoting articles is to further incentivize writers into producing quality articles, which, are dictated by DNN’s Content Guidelines meaning writers will want to pay close attention to what is designated as good and bad reporting.

REVIEW PROCESS PAYOUT FOR WRITERS

Prior to being selected to review an article, reviewers must specify an amount of DNN they are willing to forfeit. The amount of DNN that each reviewer specifies is referred to as a *Reviewer Selection Bid*, and is used to determine which reviewers are selected to review an article.

Reviewers who choose to put up, i.e. “stake”, more DNN are more likely to get selected to review an article.

Forfeiture of tokens happen when a reviewer either fails to cast a vote in a timely fashion or if their vote for an article does not match the majority vote determined by the other selected reviewers. When a reviewer votes incorrectly, the DNN they bid to review the article will be evenly divided between the reviewers who voted with the majority and the writer of the article (under the pretext that the article was accepted).

For example, if five of the seven reviewers decided that an article should be published, while two of the seven vote to reject the article, the combined bids for the two reviewers who voted against publishing will be distributed evenly between the other reviewers and the writer. Similarly, if five of seven reviewers decide to reject the article, while two out of seven vote to accept the article, the DNN from the two reviewers who voted to accept the article will get distributed between the other reviewers, but not the writer.

By excluding the writer from forfeiture payouts resulting from their article(s) being rejected, writers are hindered from submitting bogus articles in hope that they will receive a small payout.

It also ensures that everyone involved in reviewing an article is paid fairly, while simultaneously making it counterproductive to vote in an erratic fashion — that is, to vote without taking careful consideration of the DNN content guidelines.

The following expression describes the payout issued to writers, if their article is accepted, and there exists a minority who voted to reject it.

$$\textbf{Redistribution of Bids} = \textit{Bids from Incorrect Reviewer} / (\textit{Correct Reviewer Count} + 1)$$

APPROVED ARTICLE PAYOUT

Upon acceptance of an article for publication, the writer of the piece will earn DNN proportional to the quality of work they provide. Work in the context of DNN can be defined as the amount of words a piece consists of and adherence to the DNN Content Guidelines. The more words a piece has, the higher potential payout a writer can earn.

Writer pay is directly tied to a writer’s personal word rate. The word rate is the amount of DNN a writer will earn per word in their piece.

The Writer word rate is further determined by two factors: the average number of accepted articles from the writer within a week, and the average number of accepted articles from each writer on the network per week.

These two factors will either increase or decrease a writer's word rate. Since reviewing an article for the first time will result in a zero payout, a lower bound word rate of 0.1 DNN will be applied for all first time writers. One thing to note is that the accepted article payout is split between the reviewers of the article in a 20-80 percent split in favor of the writers. The following expression describes the payout for an accepted article.

Accepted Article Payout = (Word Count x Word Rate)

Word Rate = (Avg. articles accepted from writer per week /
Avg. accepted articles per writer per week)

In other words, the more articles a writer publishes that are deemed worthy of being published by reviewers, the more DNN that writer can earn. The possibility of earning a considerable amount of DNN for writing for the DNN platform is therefore limitless.

To prevent abuse, the DNN network imposes a minimum and maximum word count. The lower and upper bound word counts are 700 and 3,000 words respectively. Article word counts are calculated by the DNN software that runs on each publisher node, and will be verified by reviewers. Articles that have word counts greater than the maximum word count are allowed to be published, however, writer payouts will only account for word counts equal to or less than the maximum word count.

* **Reader Suggestion Payout** — Refer to **Reader Suggestions** section for a detailed explanation.

REVIEWER PAYOUT

When a group of assigned reviewers reaches a consensus for a particular article, each reviewer within the group earns DNN proportional to his or her bid. DNN rewards come from the Writer Fee and newly minted DNN. Each reviewer can earn a **potential payout** proportional to the amount of DNN that he or she bids to review the article. We use the word “potential,” because no reward is issued to a reviewer should they vote incorrectly. Furthermore, the more tokens a reviewer is willing to forfeit for an incorrect vote, the higher the potential payout he or she can earn. Reviewer bids can also be referred to as their stake, in the sense that, it is representative of how confident a reviewer is in a vote. The following is an expression of the potential reviewer payout.

Potential Payout = (Reviewer's Bid / Combined bids of all selected reviewers) x (Writer Fee)

READER SUGGESTIONS

In more traditional news organizations, the power in a reader-writer relationship heavily favors the writer, meaning that the writer produces a piece about a certain topic and the reader simply consumes whatever is published. There is no way for the reader to suggest or influence the topics that media companies choose to cover. For DNN, *reader suggestions* solve this issue by incentivizing writers to write articles about things that readers want. The power to suggest meaningful subjects directly to writers gives readers a voice by allowing them to participate in the creation of news that interests them.

At the beginning of each suggestion cycle, readers will propose topics that they would like writers to potentially cover. These topics will be ranked by popularity, before being presented to all writers on the platform, in a publicly accessible queue. To entice writers into writing articles about the suggested topics, additional tokens are awarded for each topic suggestion that gets approved and deals with that particular subject. Each reader is limited to no more than a single suggestion per cycle, which is a period of one week. DNN imposes these requirements in order to prevent active readers from exploiting the power to suggest and thereby, influencing the type of content that writers churn out on a daily basis.

The reward that writers receive for writing about a suggested topic is known as a *bounty*. The amount of DNN a bounty will consist of is based on how many readers suggested the topic. To suggest a topic, readers must pay DNN. Since each vote is associated with an amount of DNN put forth by a reader, the more votes a particular topic has, the bigger the bounties will be. To prevent writers from diluting the topic by flooding DNN with articles about a suggested topic in hopes of earning a bounty, only one article per 24 hours, that is based on a suggested topic, will be eligible for a bounty payout. In other words, the maximum amount of articles a writer can construct based on a suggested topic is seven per cycle or per week.

REVIEW PROCESS

Before an article can be published to the network, it must first undergo a careful review to ensure that it is factual and abides by the DNN content guidelines. Each reviewer is required to place a bid to review the article they are interested in. The first seven reviewers from the pool with the highest bids are selected to review the article. During the review period, reviewers are able to provide written feedback and vote to reject or accept the article into the network. The actions performed by each reviewer are completely unknown to the other reviewers and more than 50 percent of the reviewers must approve the article in order for it be added into the network. If the reviewers choose to reject the article, the writer has the option of submitting the article again after making any suggested changes, in which case, a new set reviewers will be assigned. The diagram below shows a complete overview of the review process:

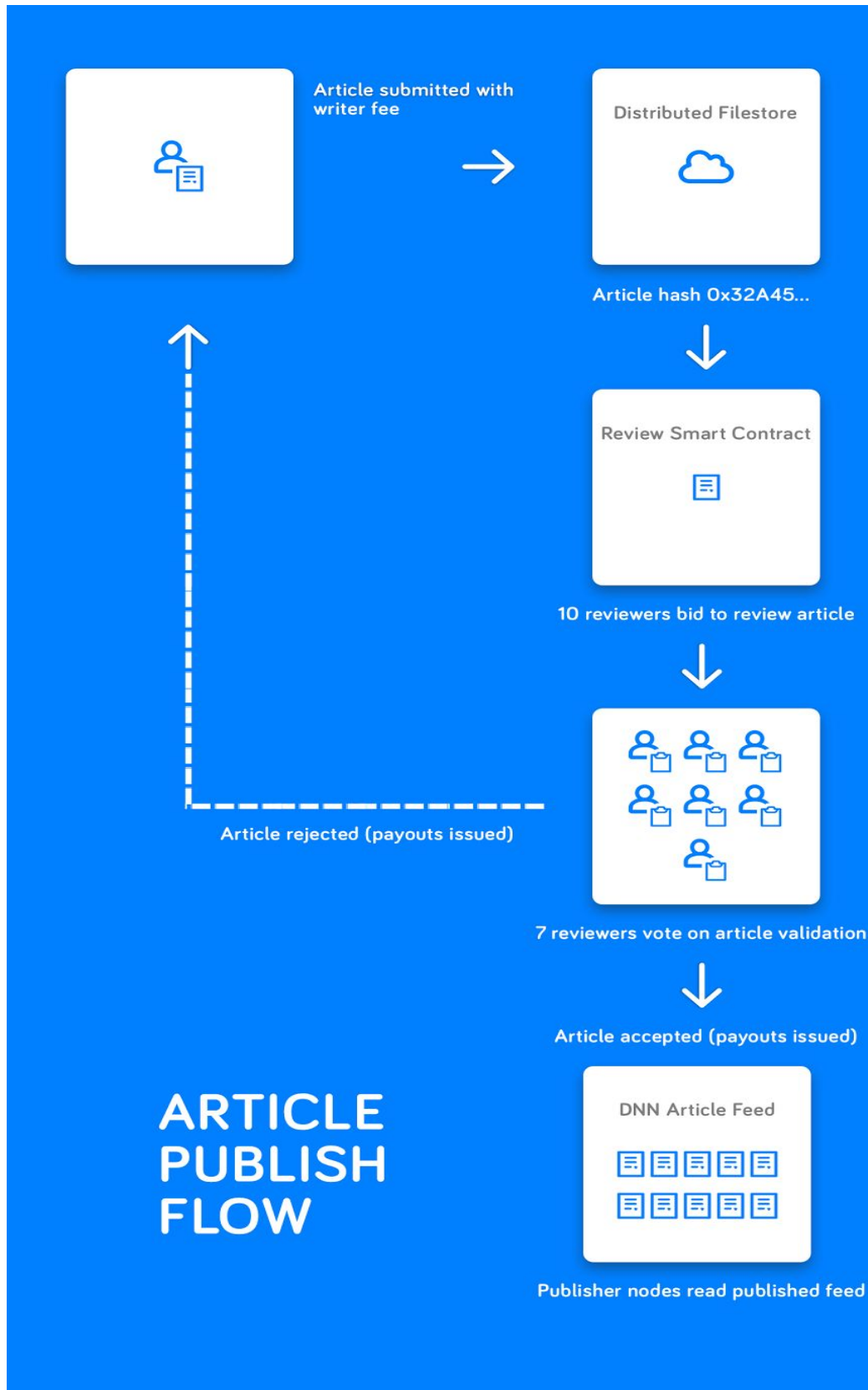


Figure 4: Article Publish Flow

REVIEWER ACCESS

As mentioned earlier, the review process works by assigning an article to a group of seven reviewers who have bid the most DNN to review an article. These reviewers may or may not be located in the same geographic region. However, in the future there is a possibility of assigning articles to reviewers in the same region that the article pertains to. For example, articles about China will be handled by reviewers in China and articles discussing the U.S. will be assigned to reviewers in the U.S.

Each reviewer, with the exception of super reviewers, has no knowledge of who the other reviewers assigned to the article are or how they voted. Super reviewers are a special type of reviewer with an exceptionally strong reputation. Regular reviewers will only have access to the contents of an article and DNN content guidelines.

Access	Reviewers	Super Reviewers
Is able to see reviewers involved	NO	YES
Is able to see contents of article	YES	YES
Is able to see stakes	YES	NO

Figure 5: Reviewer Access

REVIEWER BID FORFEITURE

Since the review process depends on the collective votes of reviewers, it is imperative that each reviewer cast a vote in a timely manner. The amount of time a reviewer is allowed is built in and dictated by the network. This is because a reviewer could undermine the process by not promptly voting or working too slowly.

Should a reviewer fail to cast a vote, the amount of DNN used to bid for the article will be forfeited and redistributed to other reviewers and the writer (dependent on acceptance into the network). In this regard, a reviewer's bid also serves as collateral. In addition to forfeiting DNN, the reviewer's reputation will be reduced (refer to "Reviewer Reputation"). A negative reputation will reduce the likelihood of a reviewer becoming a super reviewer with the right to handle articles that yield greater rewards.

SUPER REVIEWER

Within the group of seven reviewers, it is possible that at least two will be "super reviewers". They are elected monthly by active reviewers. The role of the super reviewer is to oversee the actions of standard reviewers. Aside from super reviewers having the role of overseer, votes casted by standard and super reviewers differ in weight. The voter weight diagram below showcases the weight of each vote between standard and super reviewers. Unlike standard reviewers who are unaware of the other reviewers involved, super reviewers are capable of seeing

all reviewers within the assigned group, as well as their reputations. While super reviewers can see the identity hash of each of the assigned reviewers, they won't know the final vote of each reviewer. To prevent super reviewers from colluding with standard reviewers, the hash representing each assigned reviewer will change for each new review and will only be visible to the super reviewer. A reviewer hash available to the super reviewer provides a view of the entire review history of a given reviewer.

Reviewer Groups	Weight
Standard Reviewers 1 - 5	33percent
Super Reviewer 1	33percent
Super Reviewer 2	33percent

Figure 6: Review Weights

WRITER FEE

As mentioned in earlier sections, the writer's fee is paid to reviewers. The fee will always be one-one thousandth of the accepted article payout and be distributed based on two factors: the amount a reviewer bids with respect to every other reviewer, as well as the initial writer fee split between reviewers and super reviewers.

This is described in the fee distribution chart below. Basically, if the combined bids by standard reviewers is greater than the total amount wagered by super reviewers, then the split is 70/30 in favor of standard reviewers.

If the writer fee is 100 DNN, the standard reviewers' bids amount to 50 DNN, and the super reviewers bid 15 DNN, then standard reviewers will receive 70 DNN and super reviewers will receive 30 DNN.

Reward Split	Reviewers	Super Reviewers
Super Reviewers wages >= 50percent	30percent of RR	70percent of RR
Reviewer wages >= 50percent	70percent of RR	30percent of RR
Super reviewers and Reviewers have same vote	50percent of RR	50percent of RR
Only reviewers selected	100percent of RR	0percent of RR

RR = Reviewer Reward

Figure 7: Reward Split

If the total of the bids are reversed and the total amount of DNN bid by super reviewers is greater than the amount bid by standard reviewers, then 70 percent of the writer fee is allocated to super

reviewers and 30 percent to standard reviewers. In the event that both super reviewers and standard reviewers bid the same amount, 50 percent of the writer fee is allocated to super reviewers and 50 percent to standard reviewers. By bidding a higher amount of DNN to review an article, reviewers increase their chances of earning a larger reward. The writer fee is only paid when the process is finished. The writer fee is held in escrow until all votes have been committed or the voting time has elapsed.

The purpose of the betting system is to create an environment in which being selfish benefits the network. When each user seeks to maximize the amount of reward he or she can earn, the result is a more robust review process. To prove this, we'll review how a reviewer earns tokens. During the process, a reviewer must read the submitted article, ensure that it adheres to DNN content guidelines and vote to accept or reject the article. This is known as the reviewer's personal vote and is accompanied with feedback to the writer. The reviewer is entitled to a portion of the writer fee after the casting of a determination vote.

After reviewers cast a determination vote, they must also cast a peer vote. The peer vote is a vote on the likeliness that the other reviewer type will accept or reject the article. Both the standard reviewers and super reviewers will cast votes.

The amount of DNN a reviewer bids, combined with the total amount of DNN bid by all reviewers of the same type, indicates the portion of the writer fee to which the reviewer is entitled, assuming the vote is correct. For example, if a reviewer bids five DNN and the total amount of DNN bid by the reviewers assigned is 50, then the potential reward for that reviewer is 10 percent of the writer fee portion allocated to that reviewer type. If the writer fee is split between super reviewer and standard reviewers by 70-30, then the potential reward of a particular reviewer will be a percentage of either 70 percent or 30 percent of the writer fee. The following is an expression that describes the potential reward for a successful reviewer stake:

$$\text{Writer Fee Distribution Payout} = (\text{Reviewer Stake} / \text{Sum of Reviewers Stakes}) * \text{Writer Fee Split Percent} * \text{Writer Fee}$$

REVIEW OUTCOMES

To determine whether or not an article should be added to the network, determination votes of both standard reviewers and super reviewers are considered. In the case of standard reviewers, only the majority vote will count. Each super reviewer vote counts as a separate vote. For an article to be accepted or rejected, five out of the seven votes must be the same. Included within those votes must be at least one super reviewer vote that agrees with the majority of standard reviewers. The below diagram outlines each of the vote outcomes for groups involving super reviewers.

Standard Reviewer Majority Vote	Super Reviewer #1 Determination Vote	Super Reviewer #2 Determination Vote	Should Publish
YES	YES	YES	YES
NO	YES	YES	YES
YES	YES	NO	YES
YES	NO	YES	YES
NO	NO	NO	NO
YES	NO	NO	NO
NO	NO	YES	NO
NO	YES	NO	NO

Figure 8: Publish Decisions

For groups that do not consist of super reviewers, the following diagram outlines each of the majority vote scenarios.

	0 accept votes	1 accept votes	2 accept votes	3 accept votes	4 accept votes	5 accept votes	6 accept votes	7 accept votes
0 reject votes	Not Published	Not Published	Not Published	Not Published	Not Published	Not Published	Not Published	Published
1 reject votes	Not Published	Not Published	Not Published	Not Published	Not Published	Not Published	Published	
2 reject votes	Not Published	Not Published	Not Published	Not Published	Not Published	Published		
3 reject votes	Not Published	Not Published	Not Published	Not Published	Published			
4 reject votes	Not Published	Not Published	Not Published	Not Published				
5 reject votes	Not Published	Not Published	Not Published					
6 reject votes	Not Published	Not Published						
7 reject votes	Not Published							

Figure 9: Majority Vote Publish Decisions

REPUTATION SYSTEM

Every user with the exception of readers has a reputation. Reputation provides a snapshot of all the activity a user performs day-to-day. Most importantly, it provides some means of public accountability. Since each type of user has a unique set of activities they can perform, the makeup of their reputation differs.

WRITER REPUTATION

Writer reputation reflects the number of articles accepted and the number rejected, referred to as the *articles accepted to articles rejected ratio* or AR ratio for short. The ratio is used to indicate whether or not the writer has a consistent history of submitting articles that are in accordance with DNN content guidelines. An AR ratio that is greater than one indicates that the writer submits more articles that are accepted than rejected, while an AR ratio of less than one indicates the inverse.

$$\text{AR Ratio} = (\text{Accepted Article Count} / \text{Rejected Article Count})$$

REVIEWER REPUTATION

A reviewer's reputation is comprised of the total number of times they voted with the majority, and their net bids. Net bids, is the total amount of bids lost and returned. The reviewer reputation gives key insights into a reviewer's behavior, such as how much effort he or she put into reviewing articles. The following diagram outlines what is considered a good reputation and bad reputation.

Account	Reputation	Good Reputation	Bad Reputation
Reader	--	--	--
Reviewer	Net Bids / Correct Votes	≥ 1	< 1
Writer	Articles Accepted / Articles Rejected	≥ 1	< 1

Figure 10: Reputations

Note that incorrect votes and loss bids will negatively impact a reviewer's reputation. In other words, bids that are lost will subtract from net bids, while votes against the majority will result in the subtraction of correct votes.

GAME THEORY

Countering Malicious Behavior

The review process is one of the most, important aspects of the platform. At any given moment, articles submitted must be vetted for sources and overall accuracy to uphold the integrity of the decentralized article feed. As a result, this makes the review process an attractive target for malicious users and network actors seeking to exploit it for nefarious reasons. Some of the most common attacks on the review process may include, but are not limited to: flooding reviewers with the same article to boost the likelihood of acceptance, automating the actions of the reviewer to obtain DNN by providing bogus contributions, submitting articles that contain little or no content and colluding with other like-minded reviewers to accept or reject articles of a particular

topic based on personal political views. The review process is designed to resist these types of attacks by making it costly to engage in activity that is not in the best interest of the network. DNN accomplishes this by gamifying all aspects involving user collaboration.

Von Neumann–Morgenstern Utility Theorem

There is always a bit of uncertainty in every decision. What determines how people decide depends on their desires/values and how much risk they will take on. In a collaborative environment such as DNN's review process, decisions made through collaboration are crucial to the platform's success. However, because deciding collaboratively in an open forum can lead to erratic behavior, DNN uses the Von Neumann–Morgenstern utility theorem to ensure a benefit to the platform from decisions made by each reviewer in isolation. DNN's incentive structure is designed to favor reviewers who work to vote rationally in line with DNN content guidelines, rather than irrationally. Von Neumann–Morgenstern theorem, tells us that given certain postulates of rational behavior involving risky outcomes a person who must make a decision will choose to behave in such a way as to maximize some expected value.¹¹ Put another way, a decision-maker will rank the outcomes by the probability of occurrence, expected risk, and preference.¹² The decision matrix explained under the schelling point, showcases each outcome.

Schelling Point

What is the most effective means of ensuring that reviewers won't misbehave? What measures will stop a reviewer from voting randomly or choosing to collude with other reviewers or writers? DNN's answer to both questions involve Schelling points, named after Nobel Prize winning economist Thomas Schelling. His work shows that a person will tend to choose an option, in the complete absence of any line of communication with a collaborator, that has some significant value or appears more natural or logical than the other option.¹³ For example, imagine there are two prisoners held in separate cells without any form of direct communication. Both are given a paper with the numbers 15, 358, 266, 89, 13820, 1,000,000, written on it.

Each prisoner is then asked to pick a number. If the number they select is the same as the prisoner in the other cell, then both of them will be freed. Should they choose incorrectly, they will both be faced with a 10 year prison sentence. According to Schelling, the answer that both prisoners will likely choose is 1,000,000. From the perspective of either prisoner, the best possible strategy is to think about what one prisoner expects the other to select.¹⁴

In the case of DNN's review process, reviewers are completely isolated, unaware of the identities of the other reviewers, and do not have any direct line of communication with each other. However, each reviewer has access to the DNN content guidelines and the article the group has

¹¹ Theory of Games and Economic Behavior. Von Neumann, John and Oskar Morgenstern.

¹² https://en.wikipedia.org/wiki/Von_Neumann%E2%80%93Morgenstern_utility_theorem

¹³ http://lesswrong.com/lw/dc7/nash_equilibria_and_schelling_points

¹⁴ http://rbsc.princeton.edu/sites/default/files/Non-Cooperative_Games_Nash.pdf

been selected to review. Each reviewer is asked to vote the same as the majority. If the reviewer votes correctly, he or she will receive a reward. If the reviewer votes incorrectly, the bid will be forfeited.

Therefore, each reviewer can consider their decisions as follows: I vote randomly and the other reviewers vote randomly, I vote randomly and the other reviewers vote according to the guidelines, I vote according to the guidelines and the other reviewers vote randomly, or I vote according to the guidelines and the other reviewer vote according to the guidelines. The following matrix showcases each reviewer's possible strategy.

	Peer Reviewers Vote by Guessing		Peer Reviewers Vote w/ Guidelines	
Reviewer Votes by Guessing	Reviewer cannot predict outcome	Peers cannot predict outcome	Reviewer cannot Predict Outcome	Peers likely to predict outcome
Reviewer Votes w/ Guidelines	Reviewer likely to predict outcome	Peers cannot predict outcome	Reviewer likely to predict outcome	Peers likely to predict outcome

Figure 11: Review Outcome Matrix

According to the matrix, we can see that the best option for each reviewer is to adhere to the DNN content guidelines prior to voting.

This is because each participant would assume that the other reviewers will likely vote according to the guidelines. This will lead to a predictable outcome and a higher chance for each reviewer to retain their bid.

ACCESSING DNN

Each party on DNN, with the exception of publishers, is capable of accessing the network through both web and mobile. Since publishers are merely nodes on the network and do not require human intervention, they must use platform-specific software to access the network. Furthermore, for all other users, the DNN web and mobile app provide an interface to interact directly with the network and to perform actions such as:

1. Submitting, consuming, constructing and editing articles
2. Reviewing submissions
3. Managing tokens

Every party is capable of carrying out a particular subset of user actions and given access to certain features on the web and mobile app, as demonstrated below.

WRITERS

Mobile and web apps provide writers with a fully featured editing interface for constructing the article they plan to submit to the network. The editing interface allows writers to draft, categorize, style and apply specially tailored article layouts. For example, if an article is rich with images and videos, a writer may want to choose a layout that puts more emphasis on the media than the writing. Another example is if an article consists of a video, writers may opt to display the video prior to the written portion. These configurations and various others are available using article specific layouts and are similar to blog layouts.

Although the article editor interface can be accessed directly on the DNN web and mobile app, there is no centralized server that is actively saving changes. In other words, since there is no central repository that sits on a controlled server, the contents of the draft, layout and styling are together saved to the device on which the article originated. This enables articles to be edited offline and reduces the potential for single point of failures within the network. In the event the article is rejected, writers will have the ability to make changes and see reviewer feedback within the same editor interface used to create the article.

REVIEWERS

Reviewers use the DNN app to review articles, manage their tokens and receive notifications. To ensure that reviewers are informed of articles they have been selected to review, the DNN app will send them a series of notifications. These notifications can either be in the form of emails or push alerts. Present in each notification is a link that directs the reviewer to the stage of the given article. The stage is an interface used by reviewers to give feedback and to vote on whether or not an article should be included in the network. Similar to word processing software, the stage allows reviewers to insert notes, highlight, and apply various overlaying styles to convey their feedback to the writer.

To eliminate groupthink, reviewers are not allowed to know what feedback or vote the other assigned reviewers have provided. Once the reviewer has provided feedback, the next step is to decide whether or not the article is eligible to be added to the network. This is done by casting a vote to "accept" or "reject" the article within stage. Reviewers also have the option of passing the article to another reviewer if they find themselves unable to review.

READERS

Since articles are replicated across tens of thousands of publisher nodes, readers must use the DNN app to view and interact with published articles. Much like a web browser is used to view websites that reside on various servers, the DNN app is used to view articles stored on publisher nodes on the network. Similar to a cryptocurrency explorer, the DNN app works by displaying the longest published chain of articles.

Within the DNN app, articles are listed in the order in which they were published as a vertical stream dating back to the first published article. Using the stream, readers select an article to view its entire contents, flag or comment on any published article. Since each user is associated with a unique hash, each action the user takes is tracked as metadata. This metadata is later used to determine the amount of activity the reader performed and the amount of payout earned.

IMPLEMENTATION OF DNN

NETWORK STACK

DNN's network will be built using Ethereum smart contracts, IPFS (eventually Swarm or Filecoin), and ZeroNet.

Smart Contracts

When it comes to Ethereum, smart contracts written in Solidity are used to store verified and accepted articles, in turn creating a published article feed. DNN will utilize smart contracts to facilitate the entire review process and payouts.

The InterPlanetary File System

IPFS is a complete peer-to-peer network that allows for the storage and retrieval of hypermedia. Since the amount of gas required to store articles becomes less cost-efficient as the platform scales, only a reference to the article is stored within Ethereum (i.e. a IPFS hash pointer to the article). The hash pointer used for the article will be a reference to its complete contents in IPFS.

ZeroNet

DNN ensures availability of its web application through the use of ZeroNet, though with slight variations. ZeroNet is a completely decentralized and censorship-resistant network built using the same cryptographic structure as Bitcoin and the technology of BitTorrent.

One thing to note is that the DNN is completely separate from the the DNN blockchain network. Like BitTorrent, ZeroNet works by seeding data — in this case the DNN web application — to hosting nodes that are interested in using the data.

Hosting nodes, known as peers, download ("leech") and upload ("seed") the DNN web application between each other rather than through a centralized server. Throughout the DNN, thousands of hosting nodes spread out across different geographical regions, containing complete copies of the entire DNN web application and making it available to interested viewers.

In addition to the traditional BitTorrent approach, which requires users to install software in order to download data from the BitTorrent network, the DNN application network can also be accessed

simply through a standard web browser. Users have the option of connecting directly to public hosting nodes or by navigating to DNN's domain and letting DNN find an available hosting node. Anyone can become a hosting node if they download the DNN application directly from the DNN domain instead of viewing it through a web browser. Once a user becomes a hosting node, they will automatically connect to nearby peers and begin to seed the DNN web application.

WRITER & REVIEWER GUIDELINES

DNN CONTENT POLICY

DNN has three core content policies:

1. Verifiability
2. No Unsourced Content
3. Faithfulness to Sources

Together, these three content rules determine the style and quality of material that is acceptable and should not be viewed separately from one another.

Writers and reviewers on the network are strongly encouraged to familiarize themselves with all three policies. DNN's content policy is non-negotiable and cannot be overridden by editor or writer consensus.

Verifiability

Verifiability in DNN means that other people, whether readers, writers, or reviewers, can trace the information contained in any given article back to its original source. Every definitive statement, presented as fact, has to be backed by a reputable and published source, thereby granting readers the freedom to look through a writer's source material.

DNN will not publish material that lacks proper sources. Our political content is mainly determined by information that has already been published and is not to be based solely on the personal viewpoints of writers. This also means that anonymous sources cannot be utilized, since they lack a publicly visible point of origin.

Regardless of whether or not writers are sure that a certain aspect is indeed true, it must be verifiable by the audience before they can include it in their final piece.

Many times, reliable sources can be in conflict with one another; in such cases, it is essential for writers to maintain accuracy and an objective perspective by simply presenting what all the sources state, while also citing the corresponding place of origin.

All material in DNN, including articles, lists and captions, must be verifiable. The **onus to prove verifiability is the responsibility of the writer who includes the material**, which means the

reporter must be comfortable with providing attribution that can back the corresponding content directly and effectively.

Anything that is quoted, as well as any content with verifiability that is being debated or could end up being debated, needs to have an inline citation present that directly supports it. The attributed source material must visibly support the content as shown in the piece.

Additionally, any passage in an article that clearly requires a source but has not been given one, may be subject to scrutiny by reviewers on DNN. In such cases, this may lead to rejection for the writer, if the reviewer deems that the passage needs to be adequately backed up by a reference. Condescending or malicious content about living or well-known individuals that is not sourced or is poorly sourced, is subject to immediate rejection by DNN's reviewers.

Reliable sources include:

- University-level textbooks
- Books published by respected publishing houses
- Books published by university presses
- Magazines
- Peer-reviewed journals
- Mainstream newspapers
- Respected blogs

At times, writers must exercise caution with certain sources, since they may not have been scrutinized during their organization's normal fact-checking process or may have been published in error.

No Unsourced Content

DNN articles must not contain unsourced content. Unsourced content on DNN refers to content such as theories, allegations, and ideas, that cannot be traced back to any reliable and published sources.

This also includes analysis of published material where a writer attempts to reach or imply a conclusion that is not stated by the source material. For writers to show that they are indeed not including unsourced content, they need to be able to cite reliable, already published sources that are *directly related* to the topic of the article and *directly support* the content within.

Despite attributing content to its source material, writers need to be cautious to not plagiarize said content. Instead, writers should write the material in their own words through paraphrasing while still keeping the original source's meaning.

By actively barring writers from including unsourced content in their work, DNN can place limits on the degree to which writers present clear falsehoods within articles. In turn, this also becomes a supporting pillar for accuracy on the platform.

For DNN's writers, research that consists of gathering and shaping content from existing, previously published sources is important to writing a factually accurate article. Ideally, the best practice for writers on the platform would be to research the most reliable and significant sources on a given subject before summarizing what is said in his or her own words, while clearly attributing statements to their correct sources. Source material needs to be carefully paraphrased and structured while continuing to retain its original meaning. Writers should not interject and deviate from what is contained in the sources by implying or directly stating things that were not otherwise stated. This includes positioning the content out of its primary context. Simply put, content on DNN must *stick to the nature of its sources and never stray*.

Faithfulness to Sources

All political news content existing on DNN that is attributed to sources **must be consistent** with said sources. This means that any piece of content must fairly and accurately represent the perspectives that have been already published by reliable sources on a given topic.

Additionally, sourced information should be presented in such a way that editorial bias is mitigated, even if only a little. In essence, while writers are allowed to maintain a voice in their writings, articles on DNN need to be clearly supported by evidence. It is the job of reviewers to validate and publish articles that present information with clearly attributed sources and without editorial manipulation of the sourced content.

To achieve this, a writer must critically and meticulously analyze a variety of reliable sources before attempting to portray to the reader the information contained in them fairly, proportionately, and with as little bias as possible. Listed below are the following principles to achieve the level of both faithfulness and fairness to sourced content that makes DNN purposeful:

- **Do not state opinions as facts.** Many time, articles will contain information conveying important *opinions* that have been expressed about the subjects at hand. However, these opinions should not be stated in the writer's voice. Instead, they should be accurately attributed in the text to those particular sources, or where sensible and acceptable, described as widely held views, minority views, etc.
- **Do not state seriously debated/questionable assertions as facts.** Sometimes, two or more reliable reliable sources may conflict with one another. Writers should treat such assertions as opinions rather than facts, and not present them as direct statements, otherwise this would give rise to bias.
- **Do not state facts as opinions.** *Factually-backed* assertions that are uncontested and uncontroversial, as well as made by reliable sources should usually be directly stated on DNN. Unless a particular topic specifically deals with a disagreement over otherwise uncontested information, writers would not need specific attribution for such assertions, although they may add a reference link to the source in support of

verifiability. Most importantly, any passages containing information about factual assertions should not be worded in any way that makes them appear to be debatable.

Additional notes

For writers, an important point of note is that they must use their *real name*. This is a measure primarily meant to prevent anyone on the platform from impersonating another writer and DNN plans to incorporate social sign-ins to enforce this.

Ideally, reviewers should strive to encourage writers to reword certain sections or sentences that deviate from their sources, or to include sources if they aren't already present for statements that seemingly require them. Information that is blatantly untrue or lacks a clear origin can usually be detected in a fact-checking process by weighing said information against its source.

Essentially, such problems should be rectified when possible through the normal review process. Certain material should only be removed if there is good reason to believe that it misinforms readers in ways that cannot be addressed by rewriting it.

Furthermore, the views of the writer (since they are unsourced) should only be included, in a "see also" or "to be sure" subsection to an article that explicitly speaks about those specific views.

DNN hopes to report on issues, free of any blatant falsehoods and statements describing events that never occurred or statements that were never made. Research that is both extensive and properly referenced, as well as based upon the most reputable authoritative and reliable sources available, can help mitigate conflicts in accuracy, even if it does not eliminate them altogether.

COMPETITIVE LANDSCAPE

	Purpose	Content Focus	Peer-Review	Payouts	Decentralized	Uses Tokens
DNN	Political news platform combining news creation with decentralized networks to deliver factual content, curated by the community.	Political News	A community of reviewers fact-check political articles for veracity using DNN's Content Guidelines. DNN's incentive-based review process is gamified to prevent collusion and reward all parties involved with getting an article published.	<ul style="list-style-type: none"> - Reviewers earn tokens to fact check articles - Readers earn tokens by suggesting topics to writers - Writers earn tokens from accepted articles and reader interest (i.e. upvotes, comments, etc.) 	YES - Ethereum	YES - DNN
WikiTribune	Platform that brings paid journalists and a community of volunteers together.	General News	Professional journalists hired by WikiTribune to work with a community of volunteers to fact-check articles.	<ul style="list-style-type: none"> - Writers earn money through donations and reader subscriptions - Volunteers are not part of payout - Readers are not part of payout 	NO	NO
Userfeed	Content ranking & reputation system for blockchain communities.	Content specific to community	Rules for peer-reviewing content is specific to blockchain community.	<ul style="list-style-type: none"> - Tokens earned from curators backing other curators - Readers are not part of payout 	YES - Ethereum	YES - ETH, Reputation
Lunyr	Decentralized world knowledge base which rewards users with app tokens for peer-reviewing and contributing information.	General Information	Experts in same field as content review it for accuracy.	<ul style="list-style-type: none"> - Users earn tokens by contributing content - Experts earn tokens by peer reviewing - Readers are not part of payouts 	YES - Ethereum	YES - LUN, CBN, HNR

Synereo	Allows content creators to easily monetize original works without having to turn their channels into advertisement real estate, while granting their followers the opportunity to be rewarded for getting the word out.	General Content	Curators, identifying high quality content and matching it with appropriate audiences.	<ul style="list-style-type: none"> - Curators get paid for matching content with appropriate community - Content creator gets paid for publishing original videos, music, pictures and texts - Readers are not part of payout 	YES - RChain	YES - AMP
Pramanika	Decentralized network of different heterogeneous news institutions.	General News	Qualified reviewers append opinions addressing authenticity of article prior to its publishing.	Not specified	YES - Ethereum	YES - Not specified

FUTURE PLANS

As DNN goes beyond its eventual beta and commercially-ready product, there will be a number of things that can be done with the platform in the future, including:

- Building a system granting users the ability to create community generated polls
- Letting writers pay in tokens to 'boost' their articles in the main feed, with a percentage of those tokens being circulated amongst DNN's readers
- Creating a DNN Foundation which will have access to a portion of the tokens to pay for writers, cultivate reviewers, promote and maintain the network
- Growing the network internationally with different languages and regional news
- Building end-to-end native applications on iOS and Android, containing the full functionality of the network, instead of just a portion
- Livestreaming political debates
- Building plugins that allow users to collect their own content from social media and post on DNN, after review