The Webblen Network

Webblen Inc

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Abstract

The Webblen Network is a decentralized platform of protocols used to incentivize physical and virtual community engagement. Serving as the base layer of humanity within the Web3 ecosystem, the Webblen Network utilizes easy-to-adopt frontend technology paired with a decentralized backend of Webblen Communities to create a network of self-sovereign individuals who become both stakeholders and shareholders for shared interests or enterprises. Open, permissionless, and transparent by design, anyone can build on top of the Webblen Network and tap into what is the first decentralized social economy.

Introduction

Webblen is a digital economy that incentivizes community participation by rewarding users for attending events and engaging with local media.

Built to reward users for their community engagement, users are awarded the WBLN token for their attendance at local events and consumption of local media. These processes are secured by the Webblen Network, a series of protocols built on a blockchain network, used to verify the actions of users, offer new products and services to users, and transparently allow for more diverse and robust sovereign rights within social and community networks. For example, the Proof of Attendance Protocol verifies a user's physical presence at an event and dictates the weight of rewards distributed to event attendees, whereas the Payment for Query Protocol affords users and Communities data sovereignty.

Protocols are open-source products that anyone can create, contribute to, or use. Users can create their own protocols or products for use by other users of the Webblen Network, reaping the benefits of a value-adding product, wrapped into a Webblen Community.

Webblen Communities are made for any type of congregation of users. This includes groups with shared beliefs, interests, geolocations, or enterprises. Virtually, they operate like Reddit's subreddit architecture paired with a decentralized autonomous organization (DAO) framework, allowing anyone to share user generated content, interact with certain products, or virtually socialize. Physically, they are the virtual representation of a shared physical community, such as a city, town, or niche interest within that city or town. Webblen Communities have built in governance, treasury, and operation mechanisms allowing anyone to easily create a templated DAO. In this way, the Webblen Network serves as a physical and virtual community social network with dynamic behavior mechanisms of autonomous protocols.

WBLN is the native currency of the Webblen Network. WBLN can be used on the Webblen App to purchase local goods and services, as well as operate within the decentralized and digital economy built on top of the Webblen Network.

This white paper will describe many of the mechanisms used to support the Webblen Network, as well as specific examples of applications of these systems to create valuable products for the participants of the Webblen Network.

The Webblen App

  The Webblen App is the primary stomping grounds of Webblen as a brand entity, built and run by the Webblen Inc team. End users, Webblen Organization Partners, and Webblen Smart Cities use the app and companion interfaces to interact with each other, as well as interact with the Webblen Network in a maximally simple way.
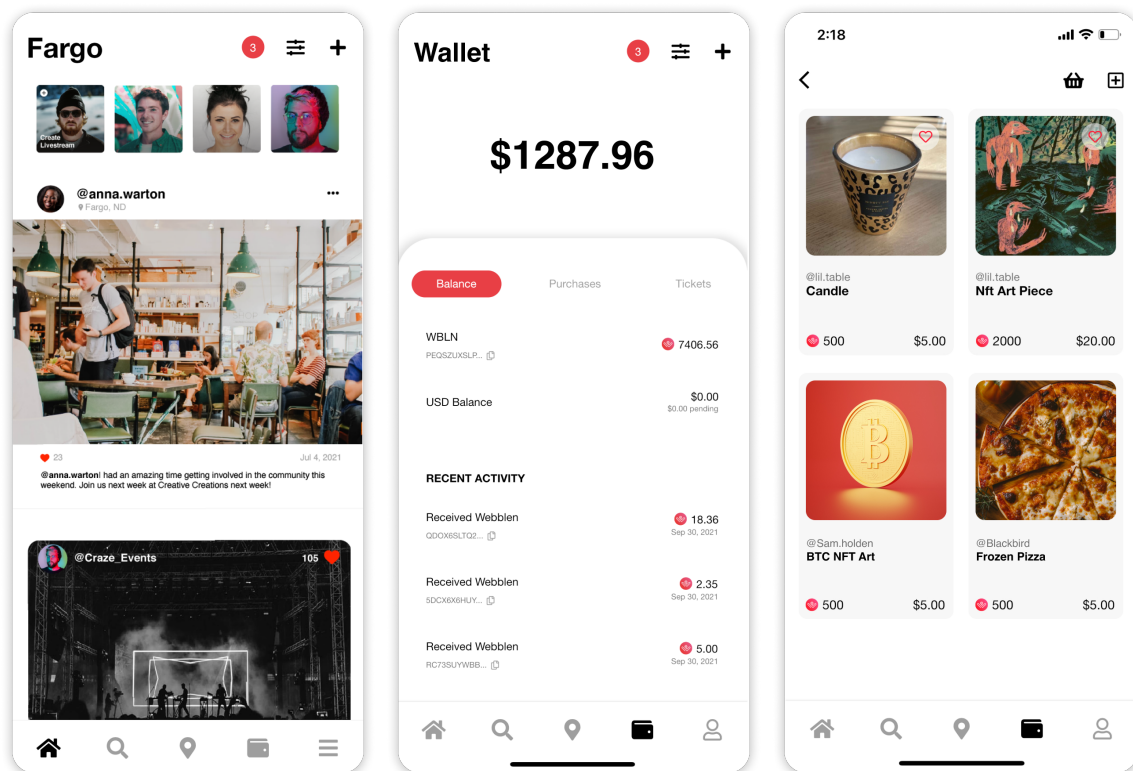

Exhibit I: Webblen App Screenshots

  From a user's perspective, the Webblen App is a hyper-local social media platform that shows events and content tailored to an individual's geography and interests. Events and locally-generated content populate users' feeds, providing them insight into current events and ways for them — and those they know — to participate in fun and entertaining experiences. It also serves as an all-in-one social experience, connecting a user's friends together virtually for a seamless, physical social experience. Users also have the ability to interact with niche sub-communities within their physical Webblen Community, allowing interactions between nearby groups of people with shared interests. For a more comprehensive breakdown of the Webblen App, explore the Webblen website and respective documentation.

  One of the primary goals of the Webblen App is to provide a maximally simple and effectively valuable user experience and interface within the Web3 world.

Many users of the app will have no intuition or understanding of blockchain technology and will use the app for its primary value-add of interacting with and receiving rewards for their engagement with their community social network. Through a progressive system defined by one's Webblen Level[1], users are slowly exposed to new features and information about blockchain technology.

Initially, users have little knowledge that the Webblen App they are using leverages the blockchain technology that is the Webblen Network. Over time, the user's degree of psychological approval and comprehension of the Webblen App allows for a progressive system, called the Webblen Level, to be implemented into the user experience. At certain Webblen Level milestones, new features of the Webblen Network and educational aspects of blockchain technology are "unlocked" within the Webblen App, affording uneducated users the positive experience of decentralized finance, play-to-earn gaming, non-fungible tokens (NFTs), open marketplaces, DAOs, and many other valuable products built on Web3 without the prerequisite knowledge.

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[1] See "Proof of Humanity Protocol"

The Webblen Network

The Webblen Network is foundationally built upon the same technology that operates the Algorand Network. Using an Algorand co-chain, the Webblen Network is a series of independent, but similarly architected nodes that run an instance of the open-source Webblen Network protocol. Because the Webblen Network is independent from the main Algorand Network, users can bridge onto and off of the Webblen Network to interact with the user base of individuals being onboarded into Web3. This affords a high-degree of security for users who do not understand how to self-custody, while allowing those who desire more control over their accounts to take that control and bridge onto other blockchain networks in the future.

Algorand Network

Permissionless DeFi, dApps, etc.

Cross - Chain Bridge

Webblen Network

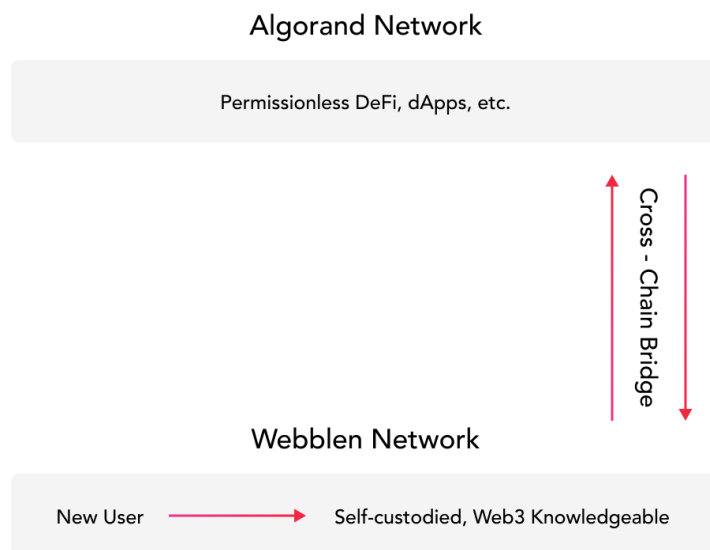| New User ⟶ Self-custodied, Web3 Knowledgeable |
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Exhibit II: The Webblen Network and Algorand Network

Although the base token will exist on the Algorand Network in the form of an Algorand Standard Asset, all of the complex decentralized protocols that will be developed for the Webblen Network user base will primarily exist on top of the Webblen Network. The Webblen Network will serve as the backend for the Webblen App front-end interface, as well as any other independently-operated front-end interfaces that interact with the Webblen Network.

Decentralized in nature, the Webblen Network is governed, owned, and operated by the users that bring value to the Webblen Network, turning stakeholders into shareholders. Over time, as more complex protocols are developed, the Webblen Network will use other interoperable blockchains, such as the Cosmos SDK, to fulfill computationally intensive protocol calculations and processes.

The Webblen Token (WBLN)

As the base currency of the Webblen Network, the WBLN token is a fixed-supply Algorand Standard Asset that organizations or individuals use to acquire event attendance, media engagement, or community involvement.

The WBLN token is received by end users in exchange for their attention and engagement within their physical and virtual Webblen Communities. WBLN can then be spent at local shops, enabling local goods and services to be exchanged for WBLN. The token can also be spent virtually within the Webblen Network to acquire dynamic NFTs, engage in virtual products, conduct micropayments between friends, and much more.

Proof of Attendance Protocol (PoAP)

The Proof of Attendance Protocol uses blockchain architecture paired with pre-existing hardware in smartphones to cryptographically verify physical event attendance while maintaining pseudonymity, ensuring tamper-proof and highly accurate event attendance data.

Event hosts can create an event on the PoAP with that event's pertinent information. Once created, the event host fills that event's Incentive Pool (IP) with WBLN. At the conclusion of the event, the WBLN within that event's IP is distributed to users based on attendance metrics collected and calculated from various physically present hardware. The Supplementary Incentive Pool[2] is also used to distribute WBLN to event attendees.
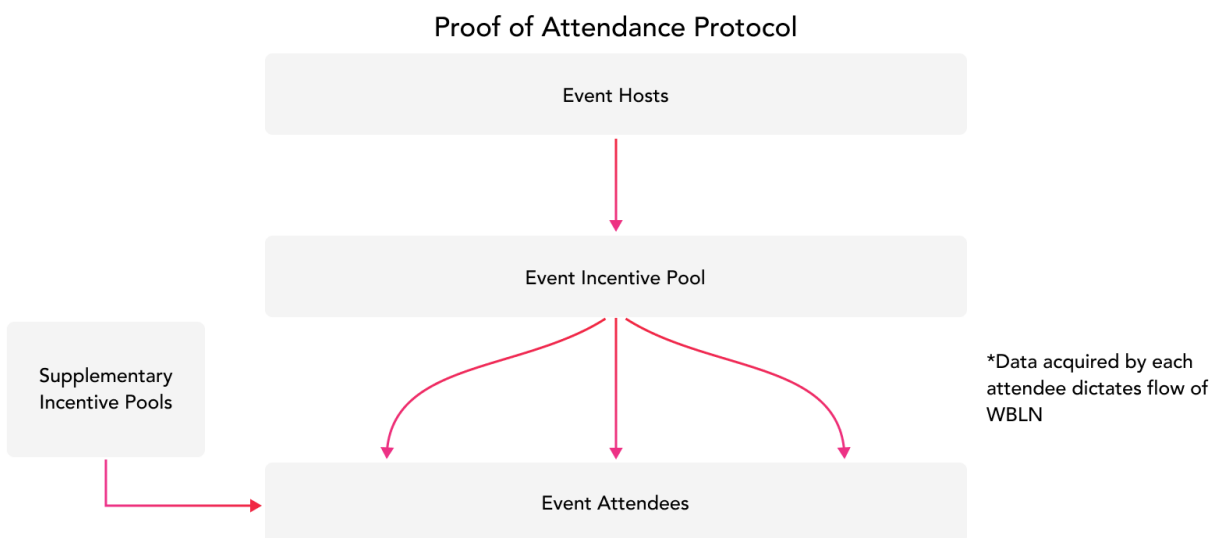

Exhibit III: The Proof of Attendance Protocol

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[2] See "Webblen Network Treasury"

Although imperfect, this protocol acquires unique information not conventionally available to verify, with high confidence, physical event attendance of users on the Webblen Network. Those with high attendance-confidence coefficients are awarded a larger portion of the IP in exchange for their share of local event engagement. Like any protocol, the PoAP will be improved upon over time to ensure that conclusions drawn from attending users are as accurate as possible, all while maintaining transparency on the Webblen Network.

For a more in-depth approach to the PoAP, see the Proof of Attendance Protocol White Paper.

Proof of Humanity Protocol (PoHP)

The Proof of Humanity Protocol is a protocol that collects information from the Webblen Network to evaluate the degree of confidence by which the Webblen Network perceives a user as human. The PoHP is akin to Bitcoin's Proof of Work Protocol for human-exclusive actions.

The Proof of Attendance Protocol serves as the foundation for the Proof of Humanity Protocol. By collecting data from a physical attendance-based action, we can collect and aggregate time-backed behavioral data across multiple protocols to assert the Webblen Network's degree of certainty that a given user is human.

This "coefficient of human confidence" is observed on-chain as a user's Webblen Level, *WL*, which is calculated as:

$$WL \; = \; ln((\alpha) + 1).$$

α equates to the PoAP Level[3], primarily derived from the first human-centric engagement metric available to the Webblen Network. Over time, α will be broken down to include other user behavior data available on-chain, and then used to develop a more accurate human confidence coefficient. At the start, the value of α will primarily be derived from physical event attendance. Over time, other human-verification data sources will be integrated into the PoHP, affording as accurate a measure of humanity as possible derived through aggregated, pseudonymous human behavior.
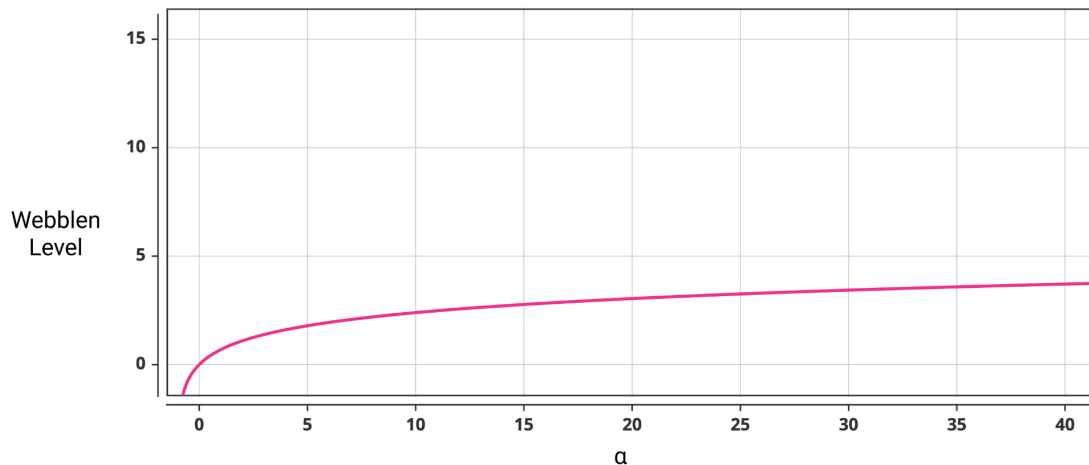
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[3] See "Webblen Network Communities"

Exhibit IV: Webblen Level Curve

Webblen Level serves as the governance mechanism of the Webblen Network. The more involved a user is with the Webblen Network, the more governance power he or she will have. However, Webblen Level is an untradable asset with special characteristics. Webblen Network governance and Webblen Community Protocols[4] can leverage a user's Webblen Level to attribute voting power and weighted bonuses. For example, the PoHP and PoAP increases event payouts and governance weight proportional to Webblen Level, which is distributed according to the Webblen Disbursement Curve[5]. The more "human proof" users have for themselves within a pseudonymous system, the larger (to a limit) a bonus they receive.

Only those who have proven their humanity by doing things only humans can, such as pseudonymously attending physical events in person, will accrue voting power and "stake" in the Webblen Network.

Social decentralization can exist within a distributed network when participants are confident that each user is human. From there, valuable products can be built from this base-layer assumption about the Webblen Network. In this way, the Webblen Network is the base-layer of humanity for Web3.

For a more in-depth approach to the PoHP, see the Proof of Humanity Protocol White Paper.

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[4] See "Webblen Network Communities"
[5] See "Webblen Disbursement Curve"

Payment for Query Protocol (PfQP)

The Payment for Query Protocol allows users and Webblen Communities to acquire payments directly from interested parties about a set of users' information, or data, derived from the Webblen Network and Webblen App. This payment is directed back to the respective users, affording them data sovereignty and enabling the monetization of their own data.
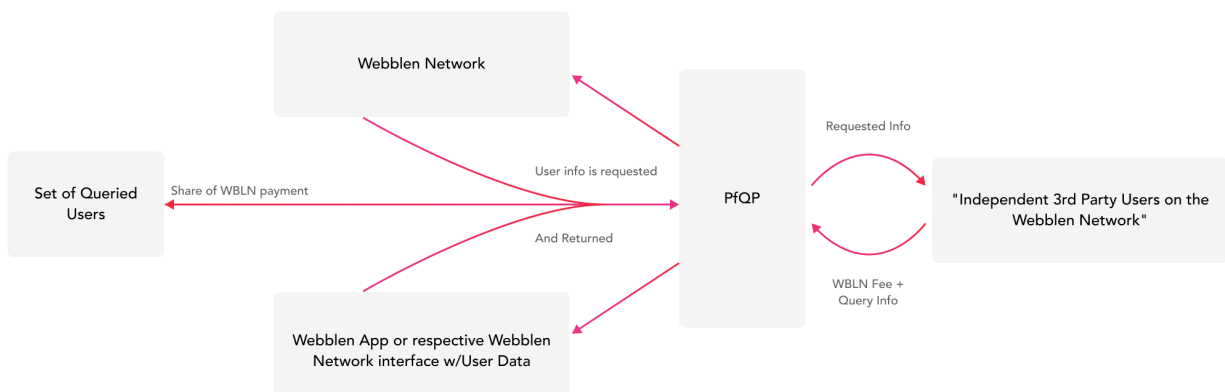

Exhibit V: Payment for Query Protocol

Akin to the European Union's General Data Protection Regulation (GDPR) for Metamask, users have the ability to selectively provide certain data to interested parties. Historically, this data was collected and sold by large technology companies that users opted into freely giving away. Now, PfQP allows any user to take control of and monetize their own data, by default.

For a more in-depth approach to the PfQP, see the Payment for Query Protocol White Paper.

Webblen Disbursement Curve

The Webblen Disbursement Curve takes the set of users being queried and allocates a bonus multiplier to each user based on that user's normalized percentile displacement from the mean, in accordance with a Gaussian fit of the population set.
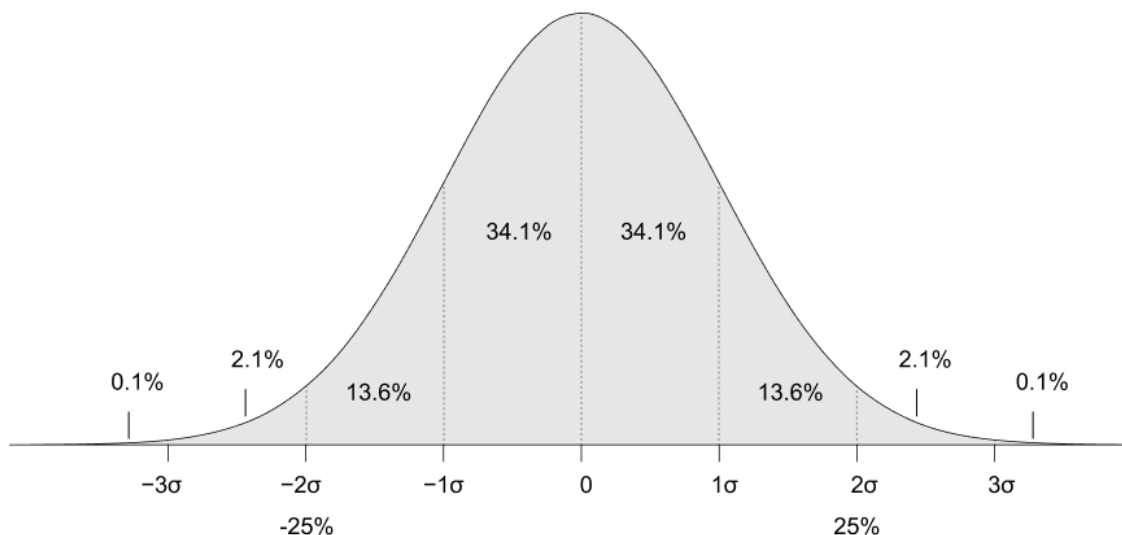
Exhibit VI: Webblen Distribution Curve

For the PoAP, users are awarded a bonus payout multiplier of ±25% depending on where they lie within the normalized set of fellow event attendees. For the PoHP, users acquire a ±25% bonus voting power multiplier for protocol level changes for the Webblen Network depending on where they lie within the normalized set of users on the Webblen Network. The Webblen Disbursement Curve is used to award Webblen Network Treasury Bonds (WNTB) to users based on Webblen Level, acquiring a ±25% bonus in rewarded WNTB. The higher the user's Webblen Level, the more weight his or her actions have within the Webblen Network.

Webblen Communities have the ability to use Webblen Level and the Webblen Disbursement Curve to derive payout awards and governing power, but they are not required to do so[6].

Fee Structure

On top of a small transaction fee used to prevent spam across the Webblen Network, 3% of all transaction volume interacting with Webblen Network Community Protocols is collected.

- 97% of the transaction is disbursed to the user, Webblen Community, or protocols that are the end product of the payment. Some percent of the transaction is also sent to the Community Protocol Treasuries involved in the transaction.
- 1% of the transaction is disbursed to the Node Pool.
- 2% of the transaction is sent to the Core Webblen Treasury.

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[6] See "Webblen Network Communities"

Node Operators

     Webblen Network Node Operators secure the Webblen Network by contributing to increased decentralization and distributed network robustness. Revenue *R* is calculated as:

$$R = BF + (0.01 * NP) + (0.1 * D_{WNTB})$$

     BF represents a small Base Fee to prevent spam across the Network and to incentivize Node Operators to run instantaneously.

     NP represents the Node Pool, a pool whereby 1% of all computationally-intensive WBLN volume is allocated in order to secure the network continuously. Computationally-intensive actions are considered processes that necessitate running on top of the Cosmos SDK (or other transparent computational platform). At conception, these protocols will primarily run on top of the Webblen Network, and thus a small amount of NP payments would be necessary. However, as protocols become more complex, a small allocation of transaction volume will be placed into the Node Pool to ensure computational operations of more robust protocols remain economically incentivized. The Node Pool disburses every week alongside the Webblen Network disbursement period.

     D_{WNTB} represents weekly Webblen Network Treasury Bond Disbursements to users based on their Webblen Level. Ten percent of the weekly global Webblen Network Treasury Bond token disbursement is awarded to node operators to incentivize the long-term operational stability of the Webblen Network.

     In the future, additional potential changes and increases in node payments will be explored through the Cosmos SDK and Proof of Stake mechanisms to further economically secure the Network.

Webblen Network Treasury

     The Webblen Network Treasury is comprised of the Supplementary Incentive Pool, the Webblen Community Directed Projects Treasury, and the Core Webblen Network Treasury.

     The Supplementary Incentive Pool will be used to increase engagement payouts across the Webblen Network in its infancy in order to reach community network escape velocity. Specifically, it is used to supplement the Human Confidence Curve[7] for each community during

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[7] See the Proof of Humanity White Paper

the Webblen Network's infancy. Early in a user's journey on the Webblen Network, that user has a low Webblen Level due to the lack of "evidence" affirming his or her humanity. Because of this, some early adopters within a physical community will not acquire large payouts compared to their peers with disproportionately higher levels of evidence. In order to combat this issue and to maximize fair adoption in each community, the Supplementary Incentive Pool is used to subsidize increased payouts for engagement to initially unproven users on the Webblen Network, allowing the early stages of the Webblen Network within physical communities to pay an appropriately-attractive amount of WBLN to participating users. The Supplementary Incentive Pool also acts as a targeted marketing campaign for early users within each physical community to achieve local network effects for that given community through increased participation awards. The Supplementary Incentive Pool is then reduced once network effects within a physical community are established.

The Webblen Community Directed Projects Treasury uses Webblen Level voting power to decide on the payment of WBLN tokens sent to community projects for new features and protocols built on the Webblen Network. This is similar to a community jumpstarter for new protocols and for acceleration of already existing communities. This also includes Webblen Communities that have not been made yet, but that the community wants to engage in.

The Core Webblen Network Treasury is the global shared treasury for all users participating on the Webblen Network. Every week, 0.05% of the Total Value Locked within the Core Webblen Network Treasury, in WBLN, is disbursed proportionally to users who hold Webblen Network Treasury Bonds (WNTB). WNTB tokens are a fixed supply token.

Initially, all WNTB tokens are held in accordance with the following assertions:

- 15% of all WNTBs held in the Community Directed Projects Treasury.
- 75% of all WNTBs held in the Core Webblen Network Treasury to be disbursed to all active Webblen Network users.
- 10% of all WNTBs are distributed to LPs on decentralized exchanges, proportional to owned ALGO/WBLN LP tokens taken at weekly intervals leading up to the Webblen Network Treasury launch. Weekly snapshot initialization will be announced on Webblen Network social media channels once the Webblen Network Alphanet is launched.

0.05% of the 75% of WNTB tokens held within the Core Webblen Network Treasury is disbursed weekly at the same time all Webblen Network Treasury disbursements occur. Disbursements of this pool of WNTB tokens are based on Webblen Level of all global users, in accordance with the Webblen Disbursement Curve. Over time, users earn WNTB for being engaged with the Webblen Network, giving them rights to the future disbursements of the Webblen Treasury. This incentivizes governance of the Webblen Network by all users in ways that promote and incentivize the health and growth of the Webblen Network as their WNTB value is directly proportional to the growth of the Core Webblen Network Treasury.

10% of the total weekly 0.05% WNTB disbursement is disbursed to Node Operators to incentivize long term security of the network.

Webblen Treasury bonds have deterministic weekly payout value:

$$WP_{WNTB} = (FO_{WNTB}) * (0.0005 * TVL)$$

WP_{WNTB} represents the weekly payout value. FO_{WNTB} represents the fraction of ownership that a given individual has of WNTB tokens as a proportion of the total supply. In this sense, future disbursements to WNTB holders can be easily modeled for different scenarios of total value locked (TVL) change. This also means that each WNTB token has a minimum token value, backed by the holdings and disbursements of the Core Webblen Network Treasury. The token value is proportional to the length of time held and the TVL growth. Due to the structure of this process, the Core Webblen Network Treasury TVL will only decrease due to weekly disbursements.

2% of WBLN Transaction Value		0.05% of TVL per week	
WBLN token spending on protocol transactions	→	Core Webblen Network Treasury	→	WNTB Holders

Exhibit VII: Webblen Network Treasury Bonds

Thus, WNTB tokens have a "reverse debt" financial architecture. WNTB tokens have a deterministic price, are un-defaultable, and provide a pre-determined and guaranteed minimum yield. The WNTB architecture also decreases WBLN circulating supply as adoption of the Webblen Network grows by locking up a portion of protocol-handled liquidity, as per the Webblen Fee Structure.

By definition, these WNTBs and respective Webblen Community Treasury Bonds are a brand new financial instrument, resembling a combination of a reverse-debt and fixed-income-producing commodity. It does not award any share in the Webblen Network or Webblen Community itself, of which is distributed in accordance to Webblen (Community) Level. Rather, it awards disbursements based on autonomous distributions from a fungible treasury of money, independent from all efforts of others. Additionally, the deterministic pricing mechanism implies a price floor for all Webblen Treasury Bonds. As the price of the Bond is derived from a deterministic pricing model, the market determination of value will not necessarily provide the expectation of profit.

Webblen Network Communities

Webblen Network Communities are congregations of individuals formed around shared beliefs, interests, geolocations, or enterprises, and built on top of a Webblen Community. Functioning similarly to a subreddit with added features and tools, Webblen Communities allow for advanced forms of coordination and interactions between groups of people, both physically and virtually. Anyone has the ability to create their own Webblen Community.

Each community has the same base feature set as the Webblen Network itself. Each Webblen Community has its own Webblen Community Level (WCL), Webblen Community Treasury, and Webblen Community Treasury Bond (WCTB). This provides the ability for each Webblen Community to coordinate governance with its respective WCL, coordinate storage of monetary inflows with the Webblen Community Treasury, and coordinate financial disbursements with WCTBs. However, the distribution and logic of community protocol governance and Treasury Bond disbursement is determined by the community itself at conception with the ability to vote on changes to the Community protocol.

WCL tokens within a given community enable each user the same governing and ownership rights that Webblen Level tokens enable for a user within the Webblen Network. These WCL tokens are used to quantify engagement and governing power within a community. WCL represents "Community Level," enabling highly-involved users to acquire community respect, awards, increased weight in governance, and other benefits in order to incentivize community engagement, development, and growth. This also means each Webblen Community has the ability to control the rights that a Community Level has over the Community through customization of the distribution topology. For example, some Webblen Communities may have a distribution mechanism similar to the Webblen Network to optimize for humanity, while others may assign specific individual founding members a percentage of a fixed-supply WCL, akin to voting-exclusive shares of a company. Webblen Communities also provide community members the ability to delegate WCL governance tokens to specific users to streamline governance within the Community. This, paired with WCTBs, allows for Webblen communities to embody entire Decentralized Autonomous Organizations of digital asset investment groups, virtual product and content creators, or any other organization of individuals.

Each community has the ability to customize distribution mechanics of WCL and WCTB by customizing a bonding curve, choosing individual holders, or alternative distribution mechanism. This is determined at conception. For example, a set of founding members could set the distribution of WCL and WCTB to be split up entirely amongst a group of original founding members. This, paired with WNTBs, would allow a subset of autonomous businesses to exist, run (WCL), and distribute cash (WNTB) via that Webblen Community's protocol.

Exhibit VIII: Webblen Network Community

The first Webblen Communities of today are physical locations where community engagement is already desirable to entice. Users of the Webblen App are organized by physical location such that content that is provided to each user is initially based on physical geolocation. Local community events, streams, and user-generated content fill their feeds. We can observe our primary physical community of Fargo, North Dakota as Webblen's first Webblen Community. The Fargo Webblen Community protocol allows members of the city of Fargo to interact, coordinate, and create with one another in an easy to use and directly engaging way. As one would with any traditional social media, users can generate and share local content, create and promote events, and livestream and collaborate on activities in Fargo. The Fargo Webblen Community also has governance processes built into the community. Municipal governments have the ability to directly cater to community members in a more effective way through polls, PSAs, and other mechanisms to directly turn members of the community into contributing community governors. Fargo Community Level attributes community engagement and involvement with weighted votes on issues pertaining to the community itself. This allows those with more community engagement efforts to be rewarded additional "stake" in their community, rewarding them for their efforts of community growth and value creation. Community members themselves have the ability to coordinate and propose changes to the community independent of any Municipal government intervention due to the decentralized nature of the Webblen Network. The process of decentralized community governance has the ability to turn community stakeholders into community shareholders through the awarding of Fargo Community Treasury

Bonds. The most engaged and contributing members of the community, as defined by the community, can be awarded a respective WNTB. This offers governors the ability to align incentives; the growth of the community increases the Community Treasury, which in turn increases potential Treasury disbursements to Webblen Community members. As a whole, physical Webblen Communities afford the community sovereign and independent governance rights within a distributed system.

Within the physical communities that exist on the Webblen Network, individual niches can exist as Webblen Communities, too. If individuals who are a part of the Fargo Webblen Community want to find other individuals who share common interests, hobbies, or goals, they can create their own Webblen Community to coordinate in one place. This community-organized and operated virtual community serves as the physical projection of a shared interest within a physical community, allowing individuals to easily find relevant events and local content. This also has a natural extension into purely virtual communities where anyone on the Webblen Network can access and interact with others of shared interests. This closely resembles Twitter's grouping algorithm or specific subreddits on Reddit.

Webblen Communities can also consist of virtual shared enterprises. Individuals who have a shared desire to create a valuable product can come together and define the distribution of shares of WCL and WNTB amongst developers, creators, players, influencers, or any other stakeholder. This community functions most similarly to a digital business with built in trustless mechanisms, allowing individuals to come together to produce valuable protocols or products built on the Webblen Network for users of the Webblen Network. The PoAP, PoHP, and PfQP are all specific versions of a general Webblen Community. These Webblen Community Protocols attach protocol logic to a Webblen Community to create a digital product. By developing a product wrapped into a Webblen Community, communities can provide value to users of the protocol while awarding developers and Community members a place to coordinate efforts and treasury disbursements.

Webblen Communities can be used as a template for any sort of DAO. WCL characteristics can be changed to allow for the open market mechanics of buying and selling community governance tokens, if desired. Webblen Communities allow for the first ever templated-DAO-creation mechanism. Webblen Communities can award or sell governance-bearing WCL to anyone they see fit. They can also award or sell the cash flowing asset, the WCTB, to an open market seeking fixed-income-producing Community bonds. One can customize all of the parameters on governance and economic disbursements within the community to fit specific goals, depending on the DAO.

Any individual or set of individuals can come together to create groups, products, applications, enterprises, or organizations with a shared interest or goal, all with built-in and transparent governance and economic disbursement mechanics. This can further be extended to

supplement physical businesses through a Webblen Community acting as a "digital business registration." For example, physical businesses can use Webblen Community payout and governance logic to turn previously non-incentivized employees into WCTB stakeholders, influencing the way they produce value for a company.

All community users will have the ability to "fork" a community protocol in the event that it disagrees with the direction of the protocol and community itself. Any group of users can come together and create a "forked" version of a community with reset WCL and WCTB distributions to those who decided to congregate away from the pre-existing culture. This awards additional leverage to community stakeholders in order to maintain open community power dynamics and balance of incentives within the hands of those who create value.
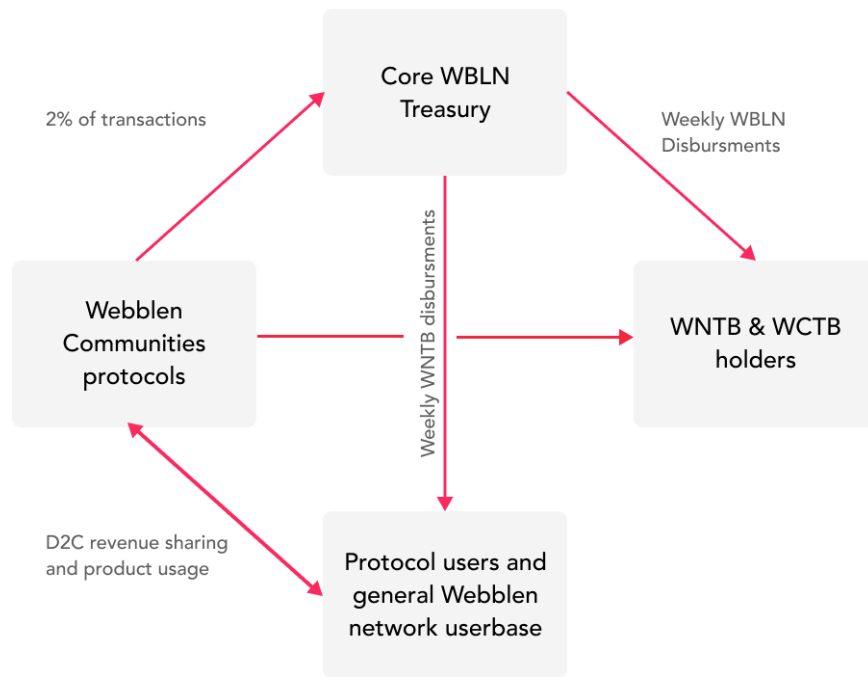
Conclusion

Exhibit IV: The Webblen Network

The Webblen Network serves as a community social economy with a topology that incentivizes long-term value creation with the use of Treasury Bonds. The Webblen App serves as an onboarding mechanism to successfully bring about large-scale adoption without requiring blockchain-specific knowledge with the goal of increasing decentralization of account custody and blockchain participation. The Webblen Network, running on the WBLN token, allows for physical and virtual community disruption to occur through advanced forms of decentralized coordination and product development. By creating a set of human confidence metrics, an additional subset of exceedingly valuable products can be built on top of the Webblen Network, such as physical community governance.

With the alignment of a community through economic mechanisms, coordination of efforts can more effectively be directed toward a shared purpose. This, for the first time, allows anyone with internet access to easily and effectively create value for or gain value from their community, physically or virtually.