



A decentralized social marketplace
and provenance-tracking protocol

WHITEPAPER

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SOMA provides a social marketplace for consumers to buy authenticated goods

ABSTRACT



SOMA tackles two problems which are closely related. From one side, enterprise suffers from inefficiencies in the tracking, verification, and authentication of goods across a product's manufacture and post-manufacture lifecycle. On the other side, co the buying and selling of authenticated goods in a socially-integrated context.

SOMA provides a social marketplace for consumers to buy authenticated goods whose provenance is tracked and stored on the blockchain. Members can monetize social capital, build a personal brand, and trade in a decentralized fashion with other trusted users. They can interact with

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brands, artisans, and influencers, as well as with other consumers, in a free-market economy that operates with minimal overhead; value accrues to the community members in the absence of a centralized intermediary corporation.

Simultaneously, SOMA offers enterprise a robust technology for timestamping, validating, and retrieving key authenticating information. Our patent-pending Heimdall Protocol connects physical (or even non-physical—more on this below) goods to

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a digital representation of those goods stored on the blockchain; this digital representation contains a detailed record of an item's provenance, history, and—in the case of secondary markets—chain-of-ownership.

By addressing the need of people for a more authentic ecommerce experience while also providing validation protocol, SOMA spans the enterprise and consumer realms. We provide a top-to-bottom solution for the tracking, verification, and marketing of—and public interaction with—the products and goods that power a modern economy.

WHAT SOMA OFFERS

SOMA offers an integrated solution for trade. Our peer-to-peer social marketplace provides a more authentic, efficient, and personalized transaction experience. Our enterprise solutions allow businesses to track and authenticate goods—and to sell those goods on our platform.

In the incumbent ecommerce model, the trading platform is one and the same with a large, controlling corporation that must absorb a significant percentage of user transactions to cover its overhead. SOMA provides a decentralized, peer-to-peer trading infrastructure; in the absence of a centralized behemoth facilitating transactions, buyers and sellers realize more value to themselves. Additionally, the decentralized model enables a more direct exchange, shortening the value chain between the original producer of an item and its final owner. The only middlemen are the middlemen that the buyer and seller choose.

Enterprise users can implement SOMA's Heimdall Protocol in both closed (permissioned) or open systems in which multiple inputs are needed and multiple parties need real-time and secure input and auditing capabilities.

FOR INDIVIDUALS

SOMA allows users to buy and sell on a next-gen platform that innovates on previous technologies in the following ways:

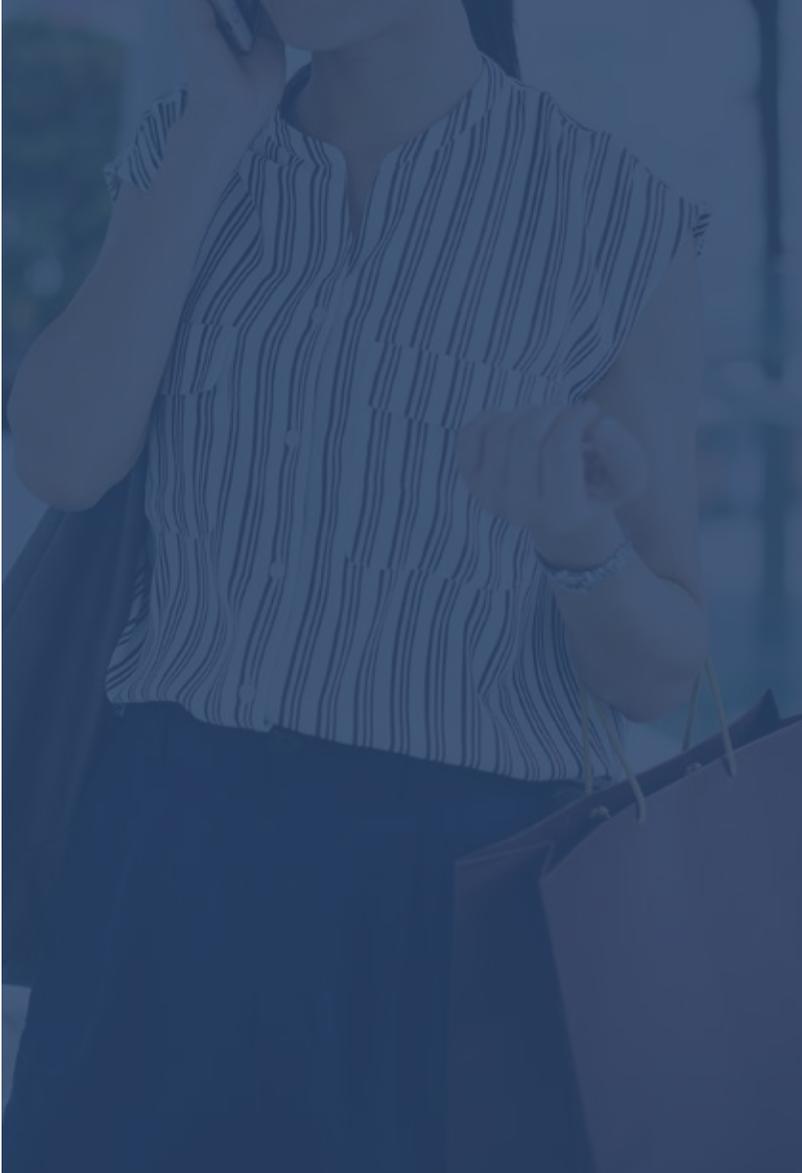
- **Value preservation:** blockchain-based transactions empower lean trading. Producers can get higher prices by going direct to the buyer. Buyers can get a better deal by purchasing from the source.
- **Exposure to markets:** producers (manufacturers, artisans, craftspeople) can access a global marketplace, no matter where on the globe they are, and they can do so more directly (see 'Value preservation,' above).
- **Authentication of merchandise:** the Interactive Item Card (IIC) validates that an item is what it purports to be. The multibillion-dollar problem of forgery and counterfeiting is solved.
- **Social trading:** we reinsert the social aspect so absent from incumbent ecommerce platforms.
- **Social monetization:** we believe that nearly everyone has something to offer. If one lacks goods to sell or cash with which to buy, one can provide 3rd-party services—referrals, reselling, escrow, etc.—and be compensated for doing so. The SOMA platform allows anyone to build a reputation as a trusted intermediary providing invaluable functions to others.
- **Free-market ecosystem:** SOMA builds an architecture and the architecture defines the rules of the game. We don't tell you how to play it. It's a wide-open field of opportunity.
- **Personal branding and lifestyle:** the social aspects of our marketplace allow you to curate your favorite items, build a personal brand and following, and resell the items you love. Some might call this affiliate marketing. We call it passion.

FOR COMPANIES AND ENTERPRISE

SOMA's social marketplace provides a venue for distribution, including access to the SOMA community of customers, and the ability to harness our reselling feature to build a zero-overhead affiliate marketing sales force. Our robust Heimdall Protocol validates and authenticates goods through the duration of a product's lifecycle, including pre-manufacture components, logistics during manufacture, sales on the primary market, all the way through secondary markets.

- **Provenance validation:** cut counterfeiters off by implementing SOMA's Heimdall Protocol. Customers now have a fail-safe way of knowing whether their product is genuine.
- **Chain-of-ownership authentication:** especially valuable for luxury brands, SOMA's Heimdall Protocol tracks your product all the way through its lifecycle.
- **Big data:** As an item's Heimdall Protocol instance moves through primary and secondary markets, it collects a wealth of data, which is extremely valuable for the originating company.
- **Logistics efficiency:** enterprise can implement Heimdall for streamlining and modernizing supply chains and manufacturing processes.
- **Every item has a story** (especially pertinent to luxury, collectible, and handmade merchandise, as well as intellectual property and creative works), and that story can now be attached to the item, and potentially monetized.
- **Exposure to markets:** SOMA's native marketplace is the place to move your wares—which, of course, are validated with our Heimdall Protocol. (You're not limited to the SOMA marketplace: the Heimdall Protocol validation mechanism is platform-agnostic.)
- **The easy sales force:** by enabling SOMA's reselling feature, a company can acquire a ready sales force. No qualifying interviews. No payroll. No HR. There's only one criterion that matters: whether a product gets sold. Once it does, smart contracts handle payment, including disbursement of the reselling commission.

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PRINCIPLES AND STRUCTURE

DECENTRALIZATION. SOMA's decentralized social marketplace allows users to trade securely, without any intermediary or centralized processing provider.

OFF-NETWORK FUNCTIONALITY. So long as a buyer and seller are on SOMA's wallet—and their devices can communicate—they can transact. Even in the absence of internet access, buyer and seller can trade via shared Wi-Fi, mobile network, Bluetooth, or (coming soon) near-field communication (NFC). Once internet access is restored, their off-network transactions will be populated into the distributed system.

IMMUTABILITY & SECURITY. Because SOMA operates on a blockchain, it exhibits core blockchain traits such as peer-to-peer processing and intrinsic security (immutability of the distributed ledger).

PRIVACY. SOMA operates on zero-proof principles; the individual user decides whether to reveal her real-life identity. Credibility is established via one's trading history and community confidence. However, users are free to validate their identities via an integrated third-party service such as Civic¹.

¹ <https://www.civic.com/>

BASIC ARCHITECTURE

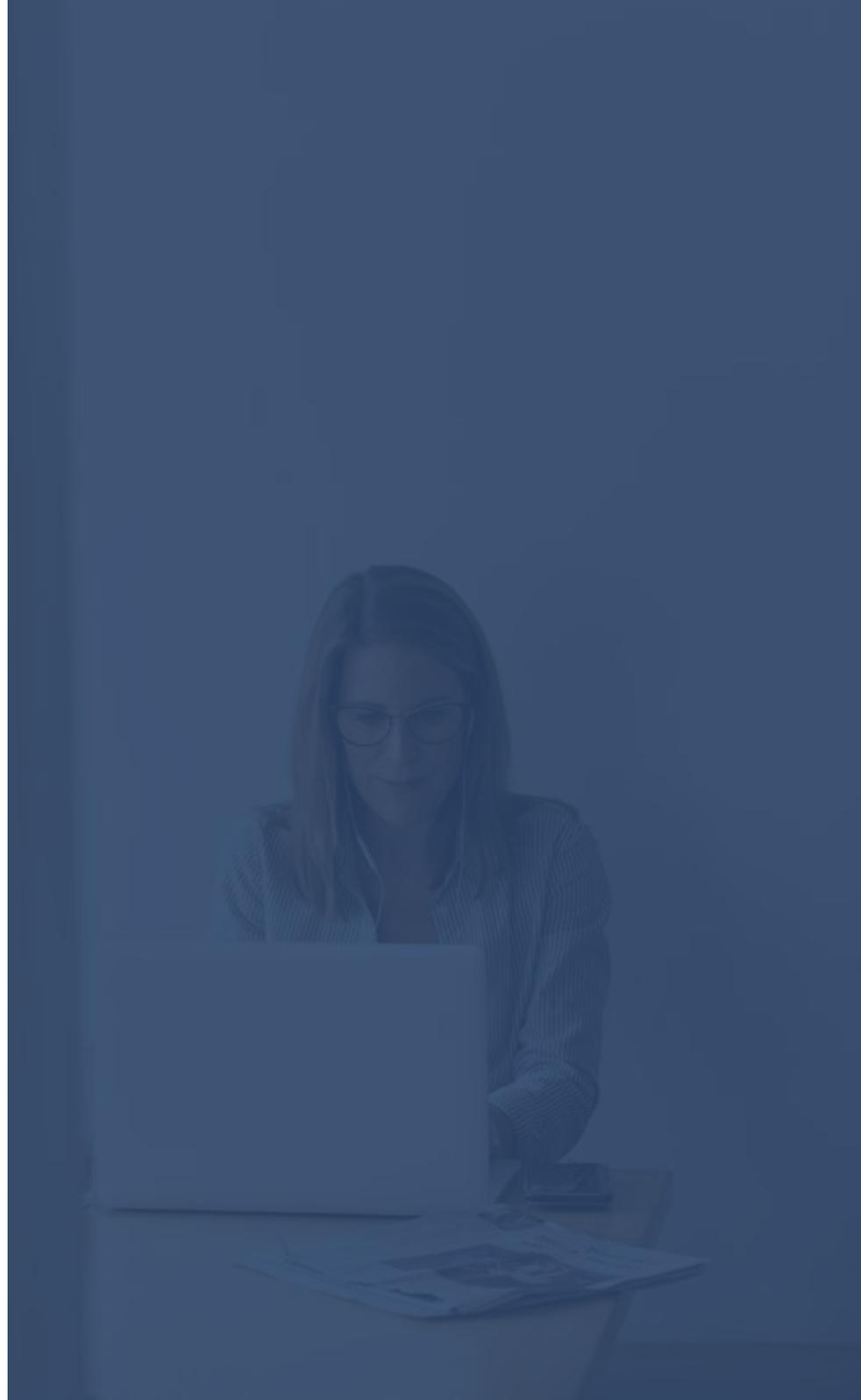
SOMA has a 2-tier architecture. The first tier is the SOMA application itself, which users can run on our Android application (currently in MVP phase) or web client (pending).

The second tier consists of a blockchain network node. (Since inception, SOMA has relied on the Ethereum blockchain as its hosting platform. In the future, SOMA plans to migrate to an alternative blockchain platform.) While technically-savvy users can run their own node, SOMA defaults to INFURA² for users who don't want to even think about nodes and architecture. INFURA is a managed node cluster, or node service.

Apart from data encoded on the blockchain, SOMA stores accompanying information in our cloud API. Timestamps and critical documentation related to the IIC remain on the blockchain, which points to the correct server destination for the supplementary materials such as photos, additional documentation, and other media. This hybrid approach offers lower latency and higher throughput by not bloating the system with large media files, while still providing the core benefits of blockchain: security, decentralization, and immutability.

Low-level processing of data is handled via the SOMA REST API—a common configuration, and one that is standard to the industry. A user's OS communicates with the SOMA REST API using JSON message format over HTTPS; the user does not need to alter network settings or open a special port to use SOMA.

² <https://infura.io/>



SECURITY 101

SOMA users benefit from the following blockchain traits:

- Immutability: the blockchain tracks every transaction. Ever. Everywhere. By everyone.
- Corruption safety: the database of transactions is distributed over all nodes in the network. Even if 51% of nodes were corrupted (a 51% attack—a remote possibility indeed), commit procedures would restore the original data.
- Reliability: the network has 100% uptime. For some force to shut down the network, it would need to take down every node. Even if such a coup were achieved, it would take only 2 isolated nodes to restore the network by committing all stored blocks and repopulating the network with all transaction history.
- Contract-level security: smart contracts cannot be altered after they have been executed on the blockchain. Nodes will commit and validate automatically—no need for a 3rd-party commit or validation service.

THE HEIMDALL PROTOCOL

The Heimdall Protocol is an industry-agnostic technology for binding items to a digital representation of those items on the blockchain. This digital representation can be viewed as an avatar of sorts, and it contains the item's provenance and subsequent history, as well as any quantity of accompanying media to substantiate said provenance and history.

Use cases for the Heimdall Protocol, then, are virtually unlimited; across almost any industry, recordkeeping and authentication can be streamlined and secured.

The Heimdall Protocol underpins the SOMA marketplace via the Interactive Item Card (IIC), which is an instance of Heimdall customized for SOMA's decentralized marketplace (and which is covered more specifically below). Heimdall, however, has enterprise use cases far beyond the SOMA ecosystem.

In Scandinavian mythology, Heimdall was the operator of the Bifröst bridge connecting the worlds of gods and men. Similarly, Heimdall is a bridge between the digital and physical worlds.

Counterfeiting costs the global economy an estimated \$1.8T per year³. Beyond blatant counterfeiting and forgery, key item information can be faked. The need for a reliable authentication protocol is pressing.

Example: a knockoff could be sold as a limited-edition Swiss watch (forgery).

³ <https://industrytoday.com/article/global-cost-of-counterfeiting-is-1-8-trillion1-according-to-new-netnames-report/>

Example: a luxury automobile could have seen much worse conditions, and many more owners, than its seller describes (fraud via misleading information).

Example: an off-brand handbag could be sold as its more expensive name-brand counterpart (counterfeiting).

TRACKING NON-MATERIAL 'ITEMS'

Nor is Heimdall limited to physical items. A Heimdall 'object' could be constructed around immaterial entities as well. Examples of these could be intellectual property, corporations, or contracts. Because a Heimdall object is a purely digital representation of the thing in question, it (Heimdall) makes no distinction between representing a physical versus a non-physical 'thing.' In both cases, the Heimdall Protocol acts as a secure, distributed, and chronologically-organized repository of verifiable record.



HEIMDALL IN THE SOMA MARKETPLACE: THE IIC

Within the SOMA decentralized marketplace, Heimdall takes the form of the Interactive Item Card, or IIC. The IIC is a fungible representation of an item and may be bought, sold, and traded. Furthermore, the IIC contains an immutable record of an item's history and provenance, stored on the blockchain. Whether a primary sale (the item's producer selling it to the first buyer) or a series of sales in the secondary markets, the IIC timestamps each ownership transfer and encodes all accompanying documentation.

The IIC provides a digital ownership certificate. Every item traded in SOMA has an IIC. Users create the IIC when initially posting an item to the platform. Items' IICs can be viewed and selected in 'Your Wallet' when one makes an offer on an item. The IIC contains information about the physical item, its condition, and its transaction history. More extensive information resides in an off-chain database referenced by a hash on the blockchain. Every transaction populates to an item's IIC automatically and is stored on the blockchain.

The IIC participates with the social architecture of the SOMA platform, allowing community members to leverage typical social media functionality to interact with the IIC and with one another. These interactions may enhance the social profile of the IIC, and its enhanced social visibility may be reflected in the price of the underlying merchandise. Sellers can potentially increase the value of their IICs by gaining social acceptance for them inside the platform. Other community members can monetize their social influence by building

A note on terminology: this paper will use 'IIC' for the instance of the Heimdall Protocol specific to the SOMA marketplace, and 'Heimdall' or 'Heimdall instance' for enterprise applications outside the purview of the SOMA marketplace.

the social profile of the IICs belonging to others—and be rewarded for the service.

A META-PROTOCOL

Heimdall/IIC allow multiple points of validation to be entered and attached to a transaction or item. These can be, but are not limited to: affidavits, expert certifications, photographic evidence, video, audio recordings, data from sensors and other electronic inputs, and official documentation. Individual instances of Heimdall may serve as inputs to other Heimdall records.

Much as in a file folder on one's computer, too many files in a single container make organization and retrieval cumbersome. And, also like a file folder, Heimdall Protocols can nest inside one another in a hierarchy.

For instance, the IIC of an original auto part can become one of many validating inputs to the IIC of the car on which the component is subsequently installed.



Similarly, other tracking protocols can serve as validating inputs to the Heimdall Protocol. Heimdall is not directly competing with other tracking solutions, such as those based on RFID technology, which is great for logistics but lacks an ability to verify provenance and authenticity with any meaningful degree of certainty. RFID could easily be wrapped into an enterprise's Heimdall repertoire; the RFID waypoints would be one of many inputs, all of which would substantiate one another.



SOMA COMMUNITY TOKEN

The SOMA Community Token, or SCT, is a native cryptocurrency to the SOMA ecosystem. Currently an ERC-20 token running on the Ethereum blockchain, SCT will, in Q1 2019, be ported to a different platform more suited to processing a high transaction volume at low transaction fees.

SCT provides internal liquidity to the platform and serves as a rewarding mechanism to incentivize collaborative behavior.

SOMA members can use SCT—among other options—to pay for goods and services on the SOMA platform. SCT is the only way for members to compensate one another for value-added actions.

Engineering SCT demand

Demand for the SOMA token comes from two primary factors. Firstly, SCT supply is finite. Secondly, value-added functions can only be compensated in SCT. By 'value-added services' we mean any transaction that is not a direct exchange between buyer and seller for goods or services. Reselling, escrow services, and other peer-to-peer services can only be compensated in SCT.

While individual sellers can certainly avail themselves of the reselling services of others, the real use will come from corporate sellers, who can scale a global salesforce with no overhead. For more on how this can work, see the penultimate segment of this whitepaper ("Use Case: The Watchmaker").

Acquiring SCT

Community members can acquire SCT via the following channels

- from having participated in the SOMA ICO (concluded in late fall 2017)
- by exchanging Ether for SCT on the SOMA Exchange
- as payment for a successful transaction
- as a reward or compensation for promoting a product
- via 3rd-party exchanges (e.g., Cryptopia) or over-the-counter (OTC) via direct peer-to-peer trading

Enterprise users can acquire SCT in the same ways as individual users. Additionally, they may, depending on availability and at SOMA's discretion, purchase SCT directly from SOMA.

BRINGING BACK THE SOCIAL ELEMENT

THE PROBLEM: DEPERSONALIZATION & ANONYMIZATION OF TRADE

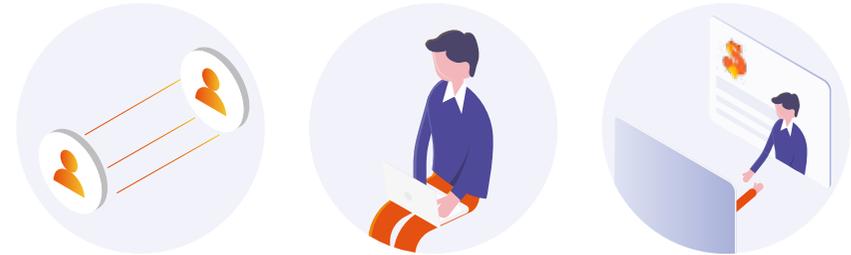
Since human prehistory, trading has been a social phenomenon. Historically, people assembled in marketplaces and bazaars to exchange pleasantries and trade items from different parts of the world. Today, much has changed (the venues of transaction) even while much remains the same (human nature).

Contemporary ecommerce platforms solve the age-old problem of access to markets. However, these feature anonymous users and depersonalized storefronts. Lack of social personalization strips interactions of an important element that has been integral to trade and exchange since the beginning of human economic activity. Based on our research, there is a huge demand for a platform that will unite trading and social interaction between users.

Correlating to the issue of anonymity on trading platforms, forgery, counterfeiting and fraud are easily perpetrated by bad actors, with little recourse for victims.

Depersonalization, anonymity, and fraud prevent legacy internet marketplaces from reaching a fuller potential. SOMA offers a mechanism for validating provenance, and also brings social functionality to the buying and selling of goods.

THE SOLUTION: THE SOCIAL MARKETPLACE



SOMA features a set of reward incentives which are built into the architecture of our social marketplace. Users are compensated in SCT for beneficial and collaborative behavior. As users collaborate in various ways, they establish reputations within the community; they become more than a wallet or a piece of merchandise. Identities form around specific interests, functions, or offerings.

VALUE-ADDING SERVICES: THE FUNCTION OF SCT IN THE PLATFORM

Sellers may leverage IIC features to offer resellers the chance to sell items for a commission. This allows drop-shipping of goods and services while verifying sales through the decentralized marketplace. The seller who created the IIC controls it and can add a discount level on a per-entry basis for each reseller.

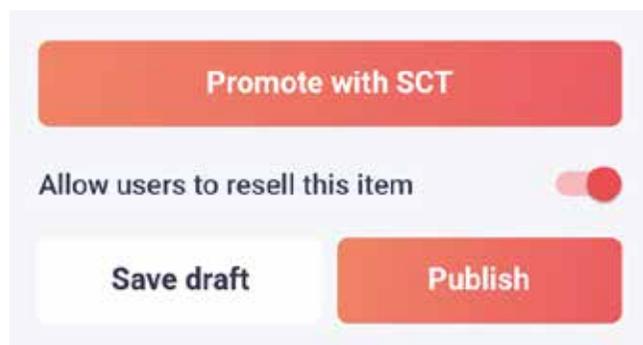
The reselling feature is specifically designed for users who want to utilize the power of the community as a distributed sales force. On one end of the seller spectrum, the reselling feature could serve individual artisans and artists by opening markets that would otherwise be inaccessible. On the other end of the spectrum, the

reselling power of the IIC would prove ideal for the corporation seeking to create an efficient, easily-auditable sales network, distributed globally, with little-to-no overhead or administrative burden.

An item owner will have the option to involve other community members in promoting her product. This may increase community trust in the item and build social validation—all of which could potentially (though not necessarily) be reflected in the item's price.

Promotion can be done internally within the SOMA community, or shared outside the platform on blogs, via email, over mainstream social media platforms—Facebook, Twitter, Pinterest, Instagram, etc.—or even on incumbent ecommerce platforms such as eBay! Regardless of where the IIC is featured, the transaction always occurs inside the SOMA system, secured on the blockchain and recorded in the IIC.

Users chosen by the item's seller for its promotion will, after a successful transaction, be rewarded with SCT by the seller. Upon enabling the reselling feature on an item, a seller's SCT will be transferred to a promotional contract and will remain there until a successful buying transaction occurs or when the promotion is canceled. If a promotion is canceled, the SCT will return to the item owner's wallet, minus any compensation due the promoter.



Sellers can enable reselling at the point of listing an item.

LIMITLESS OPPORTUNITY FOR COLLABORATION

Collaborative activities are not limited to reselling, however. Within the marketplace, users are free to build relationships and assist one another in any number of ways limited only to their respective abilities and imaginations. Users could potentially do any of the following, and much more:

- Establish a reputation as a trusted escrow agent for high-value transactions
- Capitalize on specific areas of expertise by validating the authenticity/provenance/market value of specific items that fall within one's purview (such validations would, of course, be captured and stored in an item's IIC)
- Build a personal brand around certain interests/hobbies/lifestyles/passions/expertise and monetize it by partnering with sellers within that arena (more on this below)

SOMA will avoid over-engineering the social dynamic. Using basic principles of game theory, the platform will incorporate specific social architectures to incentivize cooperative behavior; beyond these general mechanisms, SOMA will allow free-market dynamics to produce emergent socioeconomic configurations.

IDENTITY VALIDATION

SOMA will integrate the Civic protocol into its platform, allowing users to authenticate themselves. Use of the Civic protocol is optional but may confer greater legitimacy upon the users who opt for it. Civic is predicated on the idea of the self-sovereign identity: that individuals should control their own data and own identity and have discretion over how that identity is used online.

Whether or not a user chooses to avail themselves of the Civic identity authentication feature, that user still has a user account, and transaction history still accrues to that account. Even pseudonymous users, accordingly, will have a 'trust profile'; other community members may audit whether one has acted honorably and in a collaborative manner in past transactions.

THE PROBLEM: INEFFICIENT MARKETS

Commerce does not occur in a perfectly free market. States and interest groups impact prices of products and commodities. For example, OPEC manipulates oil prices by imposing import volumes to achieve its own price targets. Institutions can underprice a commodity for marketing purposes (loss-leading, for example), or overprice for enlarged profits.

Furthermore, the value chain becomes bloated with intermediaries. Multinational corporations tend to be the largest beneficiaries of value-chain bloat. Corporate 'middlemen' soak up much of the value, disproportionately to the level of utility they contribute. For example, a handcrafted carpet from one region of the world may have accumulated extreme price increase—excessive of transport costs, duties, and other actual expenses—in price by the time it reaches another market. In the process, the item will probably have passed through several brokers or intermediaries, each of whom will have made a profit on the transaction. In short, inefficiencies in the chain of distribution, combined with lack of transparency, siphon off much of the value from the two parties who should be receiving it: the buyer and seller.

This siphoning of value tends to be most severe in so-called developing countries. Those at the beginning of the value chain—those whom we might call value creators: craftsmen, farmers

and raw materials producers—often garner a pittance of the price a finished product. Attribution of value to the beginning of the chain has proven difficult at best and has required the dubious assistance of various intermediaries. To exacerbate the plight of the value creators, trade in goods is often blocked by customs duties or embargoes. Absent a technological solution, the presence of intermediaries and the lack of transparency have been a necessary evil. With the advent of blockchain and its associated technologies, however, peer-to-peer commerce and full transparency down the value chain are possible.

SOMA stands categorically opposed to rent-seeking and parasitical entities extracting value from value-creators via outdated and monopolistic socioeconomic structures.



THE SOLUTION: P2P TRADING IN A FREE-MARKET ECONOMY

As detailed above, SOMA's peer-to-peer marketplace allows anyone, anywhere in the world to engage in direct trade. This preserves maximum profitability for the seller and value for the buyer. A truly free-market system ensures the absence of monopolistic pricefixing and parasitical middlemen. Where mutually agreeable, intermediaries can add value to transactions and be compensated by so doing. True to a free-market system, however, these will have no comfy tenured spots; they can be expect their compensation to be commensurate to the value they bring to their employers—the buyers and sellers who use their services. Examples of fair intermediation: what is known in traditional markets as affiliate selling; expert witness and validation of authenticity; escrow agent, and many more. Again, where a need exists, the market will rush to fill it.

Without the significant burden of parasitical intermediaries siphoning value, small producers in various parts of the world will have new wealth-generating avenues open to them.

LIFESTYLE, PERSONAL BRAND, & CURATION OF ITEMS

Humans have always constructed their identity, to some extent, from the types of items they own. People express who they are through their tastes. They express these tastes through owning specific types of objects—or curating objects they don't own. In the digital age, curation platforms—Pinterest being the most notable—allow users to virtually 'own' items without actually possessing them. That is, they can fulfill the desire to display specific goods or lifestyles, even if those goods or lifestyles are out of reach. SOMA takes the 'display' functionality to the next level by allowing users to monetize these passions.

Humans have always constructed their identity, to some extent, from the types of items they own.

Not only does SOMA allow one to curate the IICs of other members, it also allows them to promote or resell them. An aficionado can build a community of followers and

then—by agreement with IIC owners—promote and sell the objects of his passion to those followers. And, as noted above, the reseller can port the IICs to his personal blog or to any other online venue. In this sense, the aficionado can easily become a platform-agnostic retailer, operating his own distributed online store across multiple online sites but tracked and centered in the SOMA ecosystem.

2019 SOMA PILOT PROGRAM

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Sipilänkello is excited to participate in SOMA's pilot program. We see a lot of value for us on two fronts. Firstly, its social marketplace will expand our ability to reach customers and find resellers via the SOMA Rewarding System. Secondly, SOMA's provenance-tracking solution will allow us to verify the authenticity of our fine watches for our customers.

Mika Sipila, owner, Sipilänkello; Helsinki, Finland

ABSTRACT

With select industry partners in the luxury watch sector, SOMA will run a pilot program and prepare for the next phase of global scaling. The pilot is slated to begin in Q1 2019 and run through Q2. By first attracting enterprise participants, SOMA will have populated the marketplace with relevant content and merchandise prior to initiating the user acquisition portion of the campaign.

SOMA will release a web application prior to the start of the pilot program. The web app will be accessed via any modern Internet browser and will be an improved version of the initial Android demo, incorporating lessons learned. The web application will also feature a retail management system for corporate sellers to populate, monitor, and manage their SOMA sales.

ENTERPRISE PARTICIPATION IN THE PILOT

Participating businesses (watch manufacturers & retailers) benefit in the following ways:

- Early exposure on a platform that aims to be the future of ecommerce—first-mover advantage to establish visibility and following before SOMA’s landscape becomes more crowded with sellers
- Easy affiliate marketing via SOMA’s blockchain-based reselling feature that operates with ‘smart contracts’ in an automated way
- Data collection via SOMA’s tracking protocol
- Verification of authenticity via SOMA’s tracking protocol
- PR value in being an early blockchain adopter in the luxury goods retail space

INDIVIDUAL PARTICIPATION IN THE PILOT

Consumers will create profiles and share interests. They will be able to buy and sell instantaneously and have their transactions validated on the blockchain. They will have the ability to interact with one another, to build communities, to establish their personal brand, and to grow a following. Many of these functions will be like those of existing social media platforms; the SOMA difference is that of integrating this influence into a monetized social marketplace, and one with the security and value retention afforded by blockchain tech. Specifically, SOMA offers the following:

- Assurance that products are genuine via SOMA’s provenance-tracking protocol
- Visibility into an item’s history via blockchain-based immutable records
- Participation in social communities built around a common passion (i.e., horology), while establishing a reputation within that field that can potentially be monetized
- The ability to buy and sell items that may be hard to encounter elsewhere

USE CASE: THE WATCHMAKER



photo credit @mbandf (Instagram)

Note: the events and developments described in this article are entirely fictitious and are intended to illustrate a single planned use case for the SOMA marketplace and the Heimdall Protocol.

Imagine a premium watchmaking company who had been using social media channels as a primary distribution and sales venue. Their watches' pricepoint would provide a strong incentive for forgers, some of them skilled enough to deceive even knowledgeable collectors.

THE IIC: A DIGITAL REPRESENTATION OF THE ITEM

SOMA client services could introduce the watchmaker to our Heimdall Protocol which underpins the SOMA marketplace and tracks provenance. SOMA could show the company how to onboard its timepieces into the enterprise-side SOMA portal and create an Interactive Item Card (IIC) for each. The watchmaker would soon realize that the power of the IIC surpassed their expectations: its flexibility, capacity, and ease of use could allow them to customize a validation process that cut the chance of a successful forgery to nearly zero. An additional benefit: the watch owner could have a more complete set of records than the company could previously provide—and those records would be available via a distributed network and could be passed on to successive owners of the watch.

Each watch was a work of art, unique in its creation; similarly, each IIC would contain a different set of information and media, such as:

- The exact alloy of various parts, respectively
- The precise weight and profile of the tourbillon
- How many components compose the gyroscopic carriage
- Oscillation speed to fractions of a hertz
- Detailed photographs of individual components and of each timepiece in various stages of assembly
- Video record of the respective artisan discussing the watch's qualities while demonstrating various aspects

Protecting key information from view

The question might arise for the watchmaker: if would-be forgers could access all these attributes on a publicly-available ledger, would this info not aid in the forging process, acting as a set of instructions on how to do their nefarious task? The answer: reproducing every

single attribute successfully would be beyond the ability of all but the most elite watchmakers.

Nevertheless, for an additional layer of protection, the company could opt to shield a portion of the descriptive media behind a password-protected cloud storage address referenced by a hash on the blockchain. Even if forgers were to successfully reproduce the specifications to which they had access, the hidden descriptions would uncover the forgery.

The company could store the password in their records, but also, for ease-of-reference for the watch's owner (or succession of owners), could engrave it strategically on the watch back in lettering so small that even the most hi-resolution macro photos would not render it legible (any jeweler, however, could easily view and transcribe it on behalf of the owner). This precaution would ensure that the protected information would never be lost to posterity.

Pre-SOMA sales and marketing

The company would have previously relied on traditional marketing and sales channels such as the following:

- Website store (usually a WordPress website with ecommerce shopping cart plugin)
- SEO efforts to drive traffic to website
- High levels of activity on social media, with links to website store
- Paid/sponsored social media posts and advertisements, linking to website store

Additionally, the company may have contracted key influencers—high-profile watch collectors with a significant following—to promote their timepieces.

All transactions would probably have funneled through their website shopping cart, and all marketing efforts would likely have driven traffic to purchase on the website. Authenticating documentation probably existed in physical form and included certificates from the watchmaking company, product specifications, and other materials. The company would mail these to the new owner upon purchase.

Distribution via retailers

A few authorized retailers may have also sold these watches from physical locations. These retailers would have required a significant percentage of each transaction to cover the overhead occasioned by a glitzy storefront in a premium retail location in the world's most expensive cities. Each retail sale would also have brought extra administrative burden to the watchmaker.

The SOMA solution to distribution

Newly onboarded to the SOMA platform and each with its own IIC, the timepieces would enjoy immediate exposure to SOMA's thriving community of watch aficionados who could share each watch's respective profile with one another and could purchase right on the SOMA platform.

The company could also harness SOMA's reselling feature to 'hire' a salesforce army of dedicated watch enthusiasts, with no PR burden and no hassle. Each resale would automatically pay the reseller according to a prior smart contract between reseller and manufacturer and pay the balance to the manufacturer. The IIC would subsequently transfer to the new owner, along with its wealth of documentation. All of which could occur with little to no intervention from humans.

Because the IIC can be ported outside of the SOMA marketplace, the watchmaker could still feature their merchandise on their corporate site. Now, however, sales would occur within the SOMA blockchain ecosystem—not via a WordPress ecommerce plugin.

The hypothetical watchmaker could therefore establish a global salesforce, multiple distribution channels, a failsafe ownership transfer process, and a secure authentication protocol. At the same time, the company could enjoy a massive reduction in the hours they spent on contracts, payments, human resources, legal, and other administrative overhead.

SOMA ROADMAP

2016

Q3

SOMA begins. Co-founders Jukka Hilmola and Joseph al Sharif were using legacy ecommerce platforms for their import business. Both founders observed the limitations of these existing platforms for C2C transactions. Specifically, the interpersonal or social element was lacking. They noticed customers exiting these platforms and forming localized Facebook groups for trade, presumably for the social aspect.

Hypothesizing that a combination of ecommerce with social interaction would fill an existing need, Jukka and Joseph founded SOMA. In addition to leveraging social capital on an ecommerce platform, SOMA also introduced the concept of the **interactive item card** (IIC): a digital representation of a physical item, storing all provenance and ownership history in a hybrid blockchain/off-chain model.

Q4

1st funding round: Ocuaid Ltd, an investment company owned by a famous eye surgeon operating in multiple clinics in Helsinki, invested the first pre-seed capital for Soma.

2017

Q1

Angel investment. Based on a business plan and pitch deck, Jukka and Joseph raised angel capital from a Finnish syndicate at a €1.5M valuation.

Q2

First app prototype. The founders opted to develop an iOS application, because iOS was easier to develop. (They subsequently discovered iOS to be incompatible with some key blockchain features and pivoted to focus on Android and web applications.)

Q3

ICO. SOMA sold about 4M SCT in the ICO, raising enough capital to continue development and expansion.

Q4

Technical white paper released.

2018

Q1

Android app released for MVP closed testing. A small pool of interested participants tested the app in a closed environment.

Q2

Heimdall Protocol. Drawing on the architecture of SOMA's IIC, the team developed the **Heimdall Protocol**, a data structure underpinning the IIC that could be replicated across any number of industries or use cases.

Marketing initiative. SOMA launched on an extensive marketing initiative to raise public awareness of our project.

MVP release. SOMA released its minimum viable product for community testing and feedback. The MVP — as MVPs do — has basic functionality, and SOMA will iterate upon it based on said feedback.

Q3

↓

Loyalty airdrop. SOMA plans a variation on the airdrop that will reward long-term SOMA supporters. Before committing to this, we will present our plan to the SOMA community and collect feedback to understand whether the idea has popular support. Stay tuned for details on this.

SOMA has dropped the loyalty airdrop after listening to community feedback.



MVP feedback. SOMA launched a rewards program for community members to provide feedback and collect bug bounties on our MVP.



Civic integration. SOMA will integrate Civic's identity validation service into its social marketplace. In addition to the social validation that will happen organically (users vouching for one another, creating a 'trustworthiness profile'), community members will have the option to empirically validate their identity via the Civic **Secure Identity Platform** (SIP), which "uses a verified identity for multi-factor authentication on web and mobile apps without the need for usernames or passwords."

Moved to Q2 2019



Pilot market assessment. As part of SOMA's go-to-market strategy, we've identified Singapore as an ideal initial market for our first real-world implementation. As a first step, SOMA will conduct a thorough assessment to validate the Singaporean nation as a best choice.

Based on thorough market research, SOMA has chosen to run its pilot program in the U.S. and Europe.



Business Finland Funding. Business Finland, an extension of the Finnish Government, approved SOMA for its Round 1 funding. Pending key benchmarks, SOMA will be eligible for Rounds 2 and 3.



Marketing ramp-up. Beginning in Q2 2018 and accelerating in Q3, SOMA has done a variety of marketing initiatives to increase brand visibility.



Sipilänkello partnership. Finnish luxury watch retailer Sipilänkello signed an MoU to participate in SOMA's 2019 pilot program. SOMA onboarded the store's products to our demo platform.



New Whitepaper. SOMA released a vastly-improved whitepaper that explained the technical characteristics, business use cases, and other aspects in far more detail than its predecessor.

Q4



U.S. and European partnerships. SOMA will begin onboarding commercial partners in the U.S. and Europe in preparation for our 2019 pilot program.



SOMA web platform release.

Moved to Q1 2019



SOMA escrow system. To facilitate high-value, trustless transactions on the SOMA platform, we'll be releasing our escrow service.

Moved to Q2 2019



Technical integration with alternative platform. SOMA will migrate from being an ERC-20 token on the Ethereum blockchain to an alternative host blockchain, to be announced in the future.

Moved to Q1 2019

2019

Q1



iOS app. Based on indications that the above-referenced blockchain incompatibilities will be resolved by Apple, SOMA is developing a functional iOS app.

Moved to Q3 2019

Q2



U.S. & Europe pilot launch. SOMA will begin our pilot program with select corporate partners who will sell on our social marketplace.



Application for Round 2 funding. SOMA will apply to Business Finland for a second round of funding.



Platform migration. SOMA will migrate from the Ethereum blockchain to an alternative platform, the identity of which is yet to be announced.



Web platform launch. SOMA will release our browser-based responsive application for web. This will include all functionalities of our Android MVP and will also incorporate insights gained from our MVP feedback rewards program. Additionally, the web app will feature a 'retail management system' portal for commercial clients to manage their SOMA store.



Pilot program. SOMA's pilot program will go live with a select group of corporate sellers and a community of users.



Heimdall Protocol test. To prove our provenance tracking, SOMA will choose specific industry partners for a small-scale testing of our Heimdall Protocol, which is designed to eliminate fraud, counterfeiting, and uncertainty in the ownership value chain.

Moved to Q3 2019



DEX & wallet. SOMA will integrate a 3rd-party wallet and decentralized exchange (DEX) into the SOMA platform.

Moved to Q3 2019



Heimdall feedback. SOMA will collect feedback from our industry partners regarding their use of the Heimdall Protocol and will iterate on the protocol accordingly.

Moved to Q4 2019



3rd-party integrations. SOMA will integrate third-party data input services to support adoption of the Heimdall Protocol.

Moved to Q4 2019



Heimdall token. As part of a wider vision that goes beyond our social marketplace platform, SOMA will issue a token specific to the Heimdall Protocol. This will allow whitelabeling and use of the protocol by any company, in any industry. The new token will initially be interchangeable with SCT by par value.

SOMA will not issue a new token. SCT will power the entire Heimdall Protocol, both within the SOMA marketplace and in enterprise applications outside the social marketplace.



Civic integration. SOMA will integrate Civic's identity validation service into its social marketplace. In addition to the social validation that will happen organically (users vouching for one another, creating a 'trustworthiness profile'), community members will have the option to empirically validate their identity via the Civic Secure Identity Platform (SIP), which "uses a verified identity for multi-factor authentication on web and mobile apps without the need for usernames or passwords."



SOMA escrow system. To facilitate high-value, trustless transactions on the SOMA platform, we'll be releasing our escrow service.



Conclusion of pilot program. Soma will wrap up its pilot toward the end of Q2 and ramp up to global scaling.

Q3



~~**Heimdall adoption.** SOMA will roll out the Heimdall Protocol as an industry standard for the tracking of provenance and ownership history.~~

Moved to Q1 2020



~~**SOMA adoption.** Based on lessons learned in the pilot, SOMA will have a thriving social marketplace for the buying, selling, and tracking of goods, as well as the monetization of social capital.~~

Moved to Q1 2020



DEX & wallet. SOMA will integrate a 3rd-party wallet and decentralized exchange (DEX) into the SOMA platform.



Heimdall Protocol test. Beyond SOMA's marketplace, SOMA will pilot an enterprise application of our Heimdall Protocol with select enterprise partners.



iOS app.

Q4



~~Heimdall Protocol will be in use in multiple industries as a standard of provenance and ownership verification.~~

Moved to Q2 2020



3rd-party integrations. SOMA will integrate third-party services to support our core offerings with additional features.



Heimdall feedback. SOMA will collect feedback from our industry partners regarding their use of the Heimdall Protocol and will iterate on the protocol accordingly.



Scale SOMA adoption. Beginning from our core beachheads established in our pilot program, we will take lessons learned and scale out and up, on both the corporate and consumer fronts (acquiring more corporate sales partners and also a larger consumer membership base).

2020

Q1



Rollout of Heimdall Protocol. SOMA will roll out widespread enterprise adoption of our Heimdall protocol as an industry standard for tracking, validation, and streamlining operation.

SUMMARY

As you can see, SOMA's future plans are ambitious. They're also achievable. We've hit all our milestones to date, and we have every expectation of continuing to do so. If we need to pivot based on lessons learned along the way, we will do so. This is our vision today, and it inspires us to put in the long hours that we do to bring it to fruition.



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