Business Case Report 03/20

MAGMA collective

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CoBox is fully open source
Find us on gitlab.com/coboxcoop

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CoBox Business Case Report
March 2020

A Magma Collective Project

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Overview

CoBox is software and optional hardware box that can turn a hard drive into a cloud with the help of friends, peers and organizations. CoBox is a Dropbox-like shared file system built on top of Dat. Dat is a value-driven technology built by community, financed responsibly, and given away for free to the public.

CoBox has developed the foundational building blocks of a shared file service and will develop a network so that users can swap data storage space, earn money doing it as a provider as well as other data related services - CoBox is infrastructure as a service.

CoBox is aimed at small medium enterprises (SME's), entrepreneurs, small business owners and individuals who need alternatives to corporate cloud services but lack the resources to develop or sustain self-hosted alternatives.

This business case analysis seeks to outline what that means and how it works, as well as presenting the business case for CoBox. The goal of Magma Collective, the team behind CoBox, is for it to become a sustainable business while delivering impact to users and its network.

Opportunity/Problem

People* (and businesses) are deeply ambivalent about the cloud. There is a strong love/hate dynamic: people love the personal freedom afforded by 'set and forget practices' (a lost device does not mean lost files) and convenience (all digital files on all your devices without having to think about it) which the cloud provides. User and business habits, expectations and workflows have been deeply influenced by the ubiquity of the cloud. Put simply people are happy with what the cloud **does** but are deeply concerned with **how** this is achieved, with regards to corporate practices around data captured in their clouds. Capture and surveil model has changed the way we interact on the web and has allowed for massive capture of web services.

The security practises of cloud service providers are coming under increased scrutiny as more reports of insecure data practices and hacks emerge. Amazon Web Services S3 recently had a hack of database containing thousands of UK passport scans and personal details entirely unprotected* Google made $40.3bn in advertising revenue for Q3 of 2019 alone by capturing people's online behavior.

There is a growing backlash to increasing overreach by technology giants. Legislation recognises that data privacy is fundamental to individuals and society. Data privacy is recognised as a universal human right and data protection is enshrined in the EU Treaties and in the EU Charter of Fundamental Rights GPPR is helping shape awareness of data privacy and rights, however since GDPR legislation came into force May 25, 2018 many organizations are unsure how to navigate their business practices, ensure privacy and to show customers they are on top of data requirements. Centralized data storage on servers and corporate cloud services also risk data loss. If a service or application shuts down or stops functioning, data created with that software is lost.

There is a huge opportunity in making the most of the appetite for better data privacy and storage and provide services that meet the huge demand for a less centralized, extractive model.

These concerns are being actioned by medium to large businesses globally, who have the resources (technical expertise and financial means) to deploy bespoke self managed alternatives. However SMEs outnumber large companies by a wide margin and also employ many more people. (https://en.wikipedia.org/wiki/Small_and_medium-sized_enterprises) Although the market for software / hardware solutions for larger resourced organisations is saturated there is no go-to solution for small - medium organisations despite it being a huge market.

With increasing data regulations and customer awareness, big business is moving away from the corporate cloud but small businesses and freelancers are getting left behind. Custom built software and hardware provide access to a 'local-first' data solution. Local-first software enables collaboration *and* ownership.[1]

Solution

CoBox is a simple to use software with an optional box that can turn a hard drive into a cloud. Users utilise their network to store their data. By accessing the CoBox registry and automated services,

[1] Martin Kleppmann, Adam Wiggins, Peter van Hardenberg, and Mark McGranaghan. 'Local-first software' You own your data, in spite of the cloud. 2019 ACM SIGPLAN International Symposium on New Ideas, New Paradigms, and Reflections on Programming and Software (Onward!), October 2019, pages 154–178. doi:10.1145/3359591.3359737.

premium, business and ultra users are matched to other users to share, manage and back up files - utilising data storage capacity in the network and providing the familiar conveniences end users have come to expect from the cloud.

Users can manually choose friends to back up their digital stuff with support of the software or they can hand over this selection to CoBox automated matching to organisations which are accountable. They also can set the number of backups they want. Another option is to 'pick and mix' - have known and trusted users and one copy with a professional service provider.

The registry provides a market of such providers making it easy to switch between them in case a user is unhappy with some aspect of how another user operates - there is no corporation like lock-in.

Data cannot be accessed by any third party due to the blind encryption built into the CoBox software, each CoBox's storage 'space' is encrypted, and the encryption key is stored only on devices associated with that space. Users can backup as many times as they like on their own devices (ie a CoBox Hub, their client/PC, and their desktop). Only one device is needed to seed back data to another device.

On CoBox, data can also be backed up by a remote peer - this is a social mechanism which allows users to recover data onto entirely new devices from your local devices, from remote devices or supernode devices. In all cases the outcome from the end user perspective is the same experience we have come to expect from the corporate cloud, the difference is that this is not centralized, surveillance and advertising based data storage.

An important feature of CoBox is the ability to sync & share files offline and online. Data is stored on the client device – or personal computers - so if a user loses connectivity, they can still access their organisation's or another of their own devices on the shared file system.

Instead of data being backed up in some remote location, with no oversight on encryption all data backed up is encrypted by force of the underlying protocols which are open source and can be audited, unlike closed source of the technology giants like Google and Amazon.

Unique Value Propositions

CoBox gives users the same service of the corporate cloud but full certainty that data is kept private.

Configurability
The mixed model of plug and play hardware servers and software means that real decentralization and sovereignty is possible - users have 100 percent control of their data whilst also having the assurance of automated backups with easy to use defaults. Results from market validation strongly indicate that ease of use is necessary to expect non technical users to cross over from their existing data storage solution.

No charge for Data
Use your own space, set up a mutual exchange with others, or purchase extra space from others in the network

Platform Access
Access and have the opportunity to contribute at all levels: Cobox is a mutual network, a marketplace and a platform.

Secure Backups
Files are stored blindly (encrypted) in a network of Supernodes and amongst peers of your choice. If your device is lost or damaged, your files will be restored.

Offline first
Files are stored locally on device and are accessible at all times, even when offline. Resilience is secured through backups among peers. Recently severe weather events and other global events have made the cloud unaccessible. Sadly such events are forecast to continue, with increasing frequency and magnitude, meaning the needs of many organizations (health, emergency, governments etc) to have an offline first solution is critical.

Open Source/FOSS Philosophy
CoBox is part of the Free and Open Source Software movement, allowing people to freely contribute to and make use of CoBox technologies regardless of the service fees - while also fully supporting organisations who are happy to pay for technical support. Open source is industry standard for publicly trusted cryptography projects. Audits allow for vulnerability checks which all add to the security of the service - rather than the "just trust us" model of closed source solutions.

Easy to Use
CoBox provides services while ensuring a simple user interface for the customer - they sign on and their needs are taken care of. Users have the choice to be as involved or uninvolved as they want. They can mimic the set and forget blackbox experience of the cloud, or enter into manual mode and engage with the more human-centered and involved relational approach. This approach is novel in cloud provision services as large incumbent disallow this as part of their network locking approach.

Competitors

The competitor landscape in the data storage and privacy space is dominated by the technology giants Google, Dropbox, and Amazon. As awareness of gaps in privacy increases and as hacks and losses become more commonplace a series of alternative providers have sprung up. In line with our market segmentation we are investigating the offerings of providers that are most competitive with our offering for Segment 1 and Segment 2.

Cubbit: Cubbit provides a service that is the most similar to CoBox. They provide data storage boxes, encryption and a peer to peer cloud. Key points of difference are:

- They are not open source
- Users must continually top up their storage by purchasing more space from Cubbit itself
- Backups are consigned by AI - users cannot choose who they want to backup with

This is different to the CoBox model where users only purchase data storage from CoBox one time, for additional data top-up, users purchase from each other or arrange free mutual backup with other platform users.

The service provision component enabled by the CoBox platform is another key differentiator - both premium and business users can access services they might need, while Ultra users can cover the cost of their device and data space (and earn revenue) with storage and service provision.

Cubbit is a hardware device with an in-built algorithm for backing up data amongst a network of other Cubbit users. In exchange for this backup a % of your local storage capacity is dedicated to backing up other users in the network. Cubbit Business uses matching or algorithms to find storage space to back users up. Cobox offers more configurability for power users.

Nextcloud: Technically speaking, NextCloud is not an online cloud storage provider on its own. Rather, the company is a self-hosted file sync & content collaboration platform that provides free software to install and administer cloud storage service on your own server yourself. CoBox is a layer below and collaboration is possible, so a user of Nextcloud could use CoBox to add data privacy.

Syncthing: this service enables users to sync data across multiple devices (but only their own devices) but it's not encrypted - anybody could break into your device and have access to the data, thus users on the CoBox platform can use a Syncthing device to access the CoBox platform and give others storage space on their Syncthing device.Syncthing is also primarily envisioned as software aimed at individuals and does not have an implicit notion of multiple users teams.

Filecoin

Technology

CoBox's level of encryption means that data cannot be decrypted from the boxes themselves - this is a highly sophisticated feature called blind encryption.

CoBox is resilient during censorship, blackout, and with limited or no connectivity, as data can be shared on local networks and changes can be synchronized with collaborators once Internet returns. The local-first database does not require any setup and is embedded in the consumer-facing product and the software tool.

CoBox encrypts all network communication, including metadata and media files. CoBox uses an advanced post-quantum encryption scheme with a 256-bit random key fed to the NOISE protocol used by Signal, WhatsApp, WireGuard, and others, which provides perfect forward secrecy. This means that even if encryption keys are compromised by a third-party attacker, historical entries will not be able to be decrypted.

The online peer/server will be able to sync data over an encrypted connection with a "replication key" but they will not be able to decrypt the data without a "decryption key". This end-to-end encryption provides the highest form of state-of-the-art security for CoBox users.

We compute a Blake2b hash as the "discovery key" used for signaling peers, so that any attackers with access to network traffic will not be able to decipher which files are being shared or transferred over the Internet. This is an improvement on older peer-to-peer technologies like BitTorrent and IPFS that do not have this added layer of protection against network snooping.

Cryptographic techniques mean that rather than pooling data, organisations pool their storage resources so that data can be stored across the network in an encrypted manner. A cooperative approach to storing and backing up data across a distributed network is possible whilst preserving privacy and complying with GDPR.

Our needfinding interviews showed many organisations had concerns about poor or intermittent internet connections when keeping their files on cloud services. With CoBox, you can always access data and make changes locally, and these changes are synced with other peers when it becomes possible. Our model also addresses concerns about data-extraction when being dependent on commercial cloud services.

The CoBox software is interoperable as it is a simple, non-proprietary file management system. Loading a directory on your device, you can use all your usual software to create and edit files. All the CoBox software does is to replicate these, securely and blindly, to back ups to your specification.

Our goal when we entered the Ledger Fund was to build an MVP that performed a distributed, encrypted, offline-data hosting model. We have achieved and surpassed these goals with the release of our MVP. We achieved:

- 'Identity' keypairs using Sodium's public/secret key box encryption
- Key derivation for deterministic keys for hypercores and hyperdrives (one key to rule them all / a single global parent key) - only one key to backup.
- P2P multiwriter file system
- Content encryption on dat stack.

Business Model

A key part of the business model is the platform approach, where individuals or organizations pay to access the 'ultra' user tier, meaning they can sell data services to other users. This enables users to have a full suite available of data and make a full move off corporate cloud, thereby increasing the likelihood of a shift to the CoBox platform. The strategy is to build a thriving network, which will become a marketplace (value is exchanged or bought as services and hosting space between producer/consumers or prosumers) - in sum this is a platform.

'A platform is a strategy to mobilize and help an ecosystem to produce shared value and express its potential.' Platform Design Toolkit.

CoBox Platform Access Pricing Tier

Free	**Premium €6 p/m**	**Business €19 p/m**	**Ultra €39 p/m**
Backup your own devices Access the CoBox forum	Everything in free and: ● Automated peer backup ● Access to matchmaking registry *Level up for the cloud automation you're used to*	Everything in premium and: ● Automated backup to 2+ devices ● Tech support ● GDPR Assistance *Super charge your small org*	Everything in premium and: ● Sell services on the platform and offer hosting space ● Backup to trusted set ● Accreditation process to sell services ● Privacy and secure aware stamp ● GDPR Assistance *Prosumer in the coop cloud*

A key point is that in order to be able to join the platform and be a business or ultra user and be able to benefit you need a hardware box or 'Hub'. Those paying Premium prices are on the registry, and can backup but without warranty, moving up a level to Premium provides this warranty.

Users or 'Peers' in the network are able to engage and contribute in the production or consumption of each layer. This means CoBox envisions revenue sharing with participants across the entire ecosystem *at each layer* rather than revenue primarily captured by a single corporate party behind

closed doors, with rent then paid by service providers building on-top of such corporate platforms (facebook marketplace as an example).

Access fees user flow

1. Users purchase a CoBox Hub or use the software and their device to access the CoBox distributed cloud service
2. All users access the forums and channels - building the network effect and raising the demand for services supplied by ultra users
3. By moving from the free version to a paid model, users get access to the CoBox registry where they can find others to back up their data (paid users also access tech support)
4. Large data users can arrange mutual agreements with other large data users (Ultra users) and avoid storage fees
5. Ultra users stand to build valuable relationships on the platform and provide storage, thus incentivising them to pay the top monthly access fee.

Users of CoBox software and hardware need to find another peer or CoBox to sync with and run backups. CoBox offers this matchmaking as a service by compiling and listing all users and their keys' in a registry, from here there is the opportunity to supply auditing and services certification and add a ranking and rating market to the platform. Once a user moves onto a paid plan they can access this registry so that they can find others and others can find them.

CoBox will facilitate the provision of each part of the corporate cloud services by a different open source provider, using APIs and plugins to existing specialised open source software. We have leveraged the benefits of self-hosting combined with recent innovation in peer-to-peer technologies to share the responsibilities of maintaining a shared cloud infrastructure among multiple nodes distributed across a network.

Hardware sales

By connecting the CoBox device to the network, the owner immediately receives 16GB or 2TB of storage space on the CoBox Cloud, as it contributes to the network with its internal hard disk space.

CoBox hardware sales will be managed using an external distributor (CoBox sends the Hub, distributor installs and ships).

A 1 GB CoBox Hub is €199 and 2 TB is € 499.

Additional space can be obtained by plugging in any storage device (usb sticks, hard disks, etc) via USB to the CoBox device. Half of the attached storage is made available to the user, up to 4TB of cloud space by providing 8TB to the network. The remaining storage is used for redundancy shards, and network operations.

Assembling and distribution will be initially handled by Magma Collective, until partnerships have been established with an established provider . The markup for a device is approximately 150 percent.

Supernode trainings

In person workshops will be an additional revenue arm, workshops will also build knowledgeable users. They will be marketed to individuals wanting to deepen their understanding into data privacy and storage and to professional development for individuals in organizations that need to be data aware.

Training and events have the upside of growing the network and relationships between users as well as a chance to upsell other CoBox services and hardware. They will take place where core team members are (in Berlin, London, Melbourne).

We will also partner with 'future of work' online training provider 'Better Work Together' Online to make workshops accessible to those not in the geographic locations above.

Market landscape.

Market Size

The global data storage market was worth USD 56.8 billion in 2019 and forecast to be worth USD 102.2 billion by 2024.

Both of these segments need to be able to show their clients they have data privacy and management under control. GDPR and Europe as a single digital market positions Europe as world leader in data awareness. Future policy intends to 'give users rights, tools and skills to stay in full control of their data'

From the European Strategy for Data 2020:

'There is uncertainty about compliance of cloud service providers with important EU rules and standards, for example on data protection.

'Micro-enterprises and SMEs suffer economic detriment because of contract-related problems with data backup'.

There are solutions for large organizations needing better data storage, but there is a gap in the market for SMEs, freelancers and small cooperatives

1. Freelancers who need a reliable solution to their data storage needs. Freelancers are the fastest growing segment in the entire labor market. In the United States there are 53 million people doing freelance work in the US – 34% of the national workforce.[2] In Europe, freelancing is growing.
2. Small businesses are the key early majority with data privacy and security becoming a priority since 2018 with GDPR and growing data awareness.
3. Another segment who has shown great interest in changing and improving their data storage and privacy are small cooperatives. Europe has over 170.000 cooperatives with an annual turn-over of more than €1000bn (Cocolina, 2016).

Growth potential of these two target segments at the European level alone is around €10 billion by 2025. The current conservative estimated market size for **distributed** cloud service provision is €500 million.

Market Validation

We carried out extensive long form research in the form of a needfinding report. With those results we designed our MVP. Further customer validation research was conducted around our assumed business model and the CoBox service.

[2] https://freetrain.co/freelance-statistics/

This survey showed promising results. The dominant trends are: people want an easy to use service, but they also do not trust or want to continue using corporate cloud solutions. It is clear that people are waiting for another option.

- 78 percent want absolute control
- 61 percent are actively looking for alternative solution
- 86 percent of respondents were worried about their data being the business model
- 82 percent of respondents were worried about data loss
- 51 percent of respondents said they had a data related service offering that could be offered to others.

Partnerships

CoBox is a platform and marketplace, this means that partner organizations can sell services on the platform. We have already created partnerships with the following service providers who will offer their data related services as supernode users when we launch.

- BetterWorkTogether is a online learning platform specialising in the new economy with an ecosystem of trainers, Ultra users and CoBox team could utilise to sell data and CoBox trainings to a wider audience.
- **Secure Scuttlebutt** (**SSB**) is a peer-to peer communication protocol, mesh network, and self-hosted social media ecosystem. SSB is primarily used for implementing distributed social networks, and utilizes cryptography to assure that content remains unforged as it is propagated through the network. The network is not well suited to filestorage.
- **Optimi** is a consulting firm focused on enabling freelancers and small organisations and cooperatives to harness new efficiencies by connecting web applications together and offering complete bookkeeping services. CoBox would be one tool they offer to clients (becoming an Ultra user).
- **CoTech** network is a network of UK digital cooperatives, many of whom have expressed interested in becoming Ultra users and offering data related services on the platform as well as offering CoBox trainings
- **Enspiral network** is a network of impact based freelancers and small businesses and cooperatives who have a keen interest in facilitating a more data secure world
- Legal firms specialising in data privacy - there are myriad legal firms who would gain clients from becoming Ultra users on the platform, offering GDPR and data protection consultancy.
- QA and testing freelancers and consultants. QA and testing is another service that initial validation suggests will be in demand on the platform.

A key part of building a platform is first building an ecosystem. Within our team we hold key expertise and experience initiating and maintaining strong and vibrant communities. As a team we have also all been part of strong communities.

Go to Market Strategy

In the next phase of CoBox we will focus on developing the CoBox brand identity and marketing approach. Our marketing strategy will comprise of the following steps:

1. Brand identity created and refined
2. Launch new website

3. Create owned media strategy
4. Create CoBox community/network on relevant channels
5. Crowdfunding campaign to sell boxes
6. Engage digital marketing specialist and customer support

Like many other tech companies with a hardware device, we will utilise a crowdfunding campaign to kick off sales which will also provide a platform from which to market and communicate CoBox's wider value proposition and market differentiation as well as showcasing the existing cooperative network of humans and organisations which Magma has nurtured around the CoBox project.

The initial goal will be to sell 500-1000 (ordering at this volume will also give a volume discount). Crowdfunding is an ideal way to kickstart an active network as people participating in the campaign are early adopters and passionate about the project - from a crowdfunding campaign we expect to attract our first supernodes and also participants on the platform who might need data services.

Channels

We will use a combination of digital marketing through owned channels as well as earned media. Word of mouth from users who have become software users or who have bought a box is essential - with box sales we will include collateral clearly explaining how the software and platform works. As the business model evolves and is refined we will develop an invitation discount model for platform users to invite friends, clients and other organizations to the platform.

Team

The CoBox team is uniquely positioned to deliver the technical robustness needed for the CoBox solution and build an impactful and value generating platform. As an open source R&D affinity composed of cooperative members and activists, Magma Collective has been exploring the potential of new and existing technologies in crypto-space to encourage horizontal group collaboration. Over the last year, we have zeroed in on safe management of private keys as a foundational problem to solve.

Our team has been working together across a range of projects for over ten years. The past two years have been spent developing a related component tool, darkcrystal.pw, which is built on the P2P protocol secure-scuttlebutt and has recently gained positive attention within the PETS community from Briar, Tella, DeltaChat and Cryptpad. All social research and software development has been 100% open source. Individually, we have long histories in social, environmental, economic and technological decentralisation movements, including project coordination, financial administration, research, design and software development for collective and collaborative projects including Loomio, CoBudget, Radical Routes Coop Network, Mietshauser Syndikat, Agorama Server Coop, Secure Scuttlebutt, CoTech, Robin Hood Cooperative Hedge Fund, London Social Centers Network and MayDay Rooms London. We have also participated in the successful EU-funded D-CENT, DECODE, NEXTLEAP and Panoramix H2020 consortiums.

This combination of experience in building open source software and products and decentralized network building make the team very well positioned to execute the technical complexity involved in building CoBox and the community based organizing necessary in establishing a platform.

Kate Beecroft
Business development and ecosystem

Ecosystem builder and brand specialist. Formerly head of Ecosystem at DAOstack. Built the Genesis DAO community and several others. Cofounder of Greaterthan.works, Member of Enspiral. Has led several startup accelerators helping social impact businesses start and scale up.

Jaya Brekke, PhD
Research and Human Centred Design
Expert advisor to the European Commission on Distributed Ledger Technologies. ESRC fellow at Durham University, with 15+ years working on design and economic justice of technology infrastructures.

Mooness Davarian
Research and development

Political philosopher and aspiring software engineer who has helped to develop and secure funding for major European technology projects including NEXTLEAP and Panoramix.

Kieran Gibb
Software engineering and hardware

Open source software engineer thinking through natural systems and distributed networks. Active in p2p software, co-operatives and DIY communities

Dan Hassan
Front end design and operations
Opensource hacker with solarpunk tendencies, active in autonomous co-operatives, blockchain R&D and big (enough) data analytics for over a decade in economics , housing, migration & labour.

Greg Jones
Software engineering and hardware

Software engineer based in Germany, working on community based peer to peer projects over the last decade.

Karissa McKelvey
Product Manager and Software Engineering
Karissa is a public interest technologist and researcher working in solidarity with marginalized communities to defend their rights. Her work has been depended upon by at-risk users including environmental & human rights defenders, journalists, and civil society activists living within repressive environments. She combines her backgrounds in political science, complex systems research, and software engineering to deliver public interest initiatives that leverage emerging technologies. She has sat on the board of Dat Protocol Foundation and is also co-founder of Code for Science and Society to systematize positive outcomes across the ecosystem of open source public interest technology.

Advisors

Susan Wu
Susan Wu is an entrepreneur and investor who splits her time between Australia, California, and Taiwan. She has been an active contributor to the open source and esports communities. She is a member emeritus and former CMO of the Apache Software Foundation. She was an early MUD developer, a competitive Quake 2 player, and built the leading mod for Quake 2 tournament play. As an investor and advisor, she has worked with many high growth startups, including Twitter, Square, reddit, Medium/Obvious, and others. Susan played an early role in launching Stripe's international operations, defining Stripe's go-to-market strategies globally, and launched Stripe in Australia and New Zealand, which she led from 0 to $B+ in yearly turnover in its first year of operations.

Cory Doctorow
Cory Doctorow is an activist, science fiction writer and journalist, who is co-owner and co-editor of the

weblog Boing Boing. In his recent book Walkaway he creates a compelling world which draws the reader to imagine a new scheme within which to back up their most precious data: “There’s plenty of crypto weenies trying to figure this out, using shared secrets so to split the key into say, ten pieces such that any five can be used to unlock the file.” This was early inspiration for CoBox. When we catch up with Cory it'll be this two steps ahead quality that we'll find future fusions with.

Prof. George Danezis
George is a security, privacy and anonymity researcher. Prof. of Security and Privacy Engineering at UCL. We speak to George about cryptography. He established the Blockchain Research Lab at University College London after building a blockchain system for the Bank of England. George has been experimenting with cryptographic back schemes professionally over the last decade. Our connection with George is through the pre-Facebook era of London Indymedia citizen lead direct activist journalism.

Christina Frankopan
Christina Frankopan is currently the CEO and co-founder of Protozoa, a venture builder of high-growth technology companies, including the next generation of blockchain businesses. Christina previously worked as a corporate financier and strategist, advising public and private clients across multiple jurisdictions and at all stages of maturity. Beginning her career in M&A at Lazard in London, she has subsequently worked with advisory boutiques Soditic and Auden Capital, with a particular focus on financial services groups, and the asset management sector in particular. More recently, she has also evolved an applied interest in the emerging field of impact investing.

Dominc Tarr
Dominic Tarr started the secure-scuttlebutt project, a Node.js developer with more than 700 modules published on npm and who lives on a self-steering sailboat in New Zealand. It is here, from the need for offline connection with the outside word, Scuttlebutt emerged.

Lola Oyelayo
Lola is a product strategist who specialises in figuring out what new tech is actually useful for. At Chainspace she's in charge of research, prototyping, and business strategy to find what's useful (and ditch what's not) in what's still a very immature design space. We speak with her about UI/UX Expert, fusions between Product Research and Ethnographic Research (in a format she has innovated called Field Studios). Self-described Afro-Geek, Wanderer. UX/ Strategy/Product Innovation; Blockchain/Crypto;

Dr. Jutta Steiner
Jutta is the co-founder and CEO of Parity Technologies. Parity Technologies has developed the most advanced Ethereum client and has recently started a new blockchain network protocol called Polkadot—a pioneering work to address governance, interoperability, and scalability of blockchain technology and a fundamental building block of the future decentral Web 3. She previously served as Chief of Security for the Ethereum Foundation, overseeing security audit and integration prior to the launch of the public blockchain in 2015