

ZIPPER

Mobile platform bringing blockchain to the masses

Whitepaper

Zipper Global Ltd
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A hundred years ago,

If somebody had asked Alexander Graham Bell, "What are you going to be able to do with a telephone?" he would not have been able to tell them the ways the telephone would affect the world. He didn't know that people would use the telephone to call up and find out what movies were playing that night or to order some groceries or call a relative on the other side of the globe.

But remember that first the public telegraph was inaugurated, in 1844. It was an amazing breakthrough in communications. You could actually send messages from New York to San Francisco in an afternoon. People talked about putting a telegraph on every desk in America to improve productivity. But it wouldn't have worked. It required that people learn this whole sequence of strange incantations, Morse code, dots and dashes, to use the telegraph. It took about 40 hours to learn. The majority of people would never learn how to use it. So, fortunately, in the 1870s, Bell filed the patents for the telephone. It performed basically the same function as the telegraph, but people already knew how to use it.

... They're not going to learn slash q-z any more than they're going to learn Morse code. That is what Macintosh is all about. It's the first "telephone" of our industry.

Steve Jobs, Playboy interview, February 1985

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1 Summary

Zipper is building a **mobile platform which brings blockchain based services to the masses by making them easy to use**. The project aims to elevate our smartphones to blockchain powered devices which anyone can use.

While Ethereum and other blockchains enable a new decentralized economy, the **cumbersome user experience**, for example, with handling one's private keys, can severely hinder the mass adoption of various blockchain services. At the same time, there are billions of people around the world who access the internet primarily with their smartphones. Building a secure and easy to use mobile platform for smartphone users is the key to bring the benefits of blockchain based services to the masses.

The Zipper team is **specialized in building open source mobile operating systems, products and communities**. A decade ago, we contributed in building Nokia's MeeGo OS, and founded Jolla in 2011 to create the independent Sailfish OS which is now licensed by several large nations and industry players. We have also grown active open source communities around these projects, an asset we can further utilize with the Zipper initiative.

As its first step to enter the market, Zipper has partnered with Jolla to launch a **developer & community program for Sony Xperia smartphone**. Developers can use the device to integrate their blockchain based services to the Zipper platform, and community members to provide feedback as the platform's first users. Over time, Zipper aims to make the Zipper platform and the services integrated into it available to many other Android and Sailfish OS smartphones as a pre-installed or downloadable solution.

ZIP token (ZIPT) is Zipper platform's utility token which is used mainly for three purposes: the platform and service providers can use ZIP to **reward their active users**, helping the providers to establish a loyal user base and on the other hand rewarding loyal users for their attention. Moreover, ZIP is used to **incentivise application development** for the Zipper platform as well as to **curate the best applications for discovery** through a curation market mechanism.

Zipper will invest into projects which are essential for the Zipper ecosystem to succeed, and invites existing blockchain projects to integrate their services into the Zipper platform. Together we can offer a **smooth integrated user experience**, just like iOS and Android do today, but, in a decentralized way **valuing privacy, transparency and collaboration**.

Disclaimer

This whitepaper draft is for information only and does not constitute an offer or any kind of investment advice. Any element of this whitepaper may undergo significant changes as the project further develops.

The brands and visuals seen in this whitepaper are for illustration purposes only, and not endorsements or partnerships from these specific brands unless explicitly stated otherwise.

We hope that this draft encourages critical review of our project in the community. You are more than welcome to contact us and join the discussion on any channel listed on zipperglobal.com.

Glossary

Zipper platform - Decentralized application runtime environment which aims to bring blockchain powered mobile experiences to the masses in an easy and secure way.

Decentralized application runtime environment - Runtime used by decentralized applications and some system services on mobile devices, independent from devices' original operating system.

Decentralized mobile web - The next generation of internet where core services like digital identity are decentralized, and where individuals with mobile devices can engage in value and ownership exchange directly with each other without middlemen.

ZIP token - Ethereum ERC20 utility token which Zipper platform and the services integrated into it use to reward their users and developers.

Token - An intangible asset stored on a blockchain which entitles a token holder to a bundle of rights (and possibly liabilities) set out in smart contracts and other relevant documentation.

Zipper ecosystem - Products, services and their developers and providers, end users, and other participants who create, use and promote ZIP token powered experiences.

ZIP Trust - A Trust managing the allocation of ZIP tokens.

Zipper project - General term for the project described in this whitepaper.

Zipper Global Ltd - A Hong Kong based company founded in 2016 which leads the Zipper project and steers the development of Zipper platform.

Jolla Ltd - A Finnish technology company which develops the open Sailfish OS mobile operating system and is one of Zipper's R&D partners.

2 Introduction: blockchain needs easier and more secure consumer experiences

New technologies scale into mainstream only with simple and good user experiences. Apple and its products are a great example of this: first it took personal computers to the mainstream by replacing DOS commands with a graphical interface and a mouse. Then Apple disrupted mobile by replacing a tiny screen and buttons with a large touch screen and a vivid ecosystem of useful and easy to use apps.

Blockchain and crypto-assets are the next big disruptor after internet and mobile. Where mobile internet provided equal access to information for most people in the world, blockchain and tokens will provide equal access to value exchange for everyone connected to the internet. The key to reach this vision is easy, trustless, low cost transactions, which the Ethereum platform and smart contracts can provide.

The Zipper project's goal is to enable the average consumer to have access to the decentralized web's services, as easily as he accesses the mobile internet with an iPhone or Android device; just take the device out of the box or install an app and start using and earning with it straight away, instead of having to print and hide private key, or worrying if one's sensitive data can be leaked.

Key challenges to scale the decentralized ecosystem

The current user experience of mobile Ethereum, and other blockchains, leave a lot to be desired:

- The handling of private keys is far from being usable: printing your private key and keeping it "safe", is just not going to work on a large scale.
- The number of hacks, where private keys have been stolen, by using various social engineering methods, show us that when Ethereum and the blockchain industry moves into the masses, the hackers will move along.
- Most of the mobile devices in the world are Google Android devices which base their business model on the monetization of user data. Cryptocurrency users can never be sure how their data is being used. Building a decentralized mobile ecosystem on

top of the current model is like building your house on sand. You can invest a lot of effort building something great, but eventually the house will sink.

- User interfaces are full of terms unknown and confusing for the average person.

Three statements of mass adoption

To enable the mass adoption of Ethereum and other blockchains:

1. We need to create smartphone experiences which handle our private keys and transactions in a safe and easy to use way.
2. We need to address the integration of various Ethereum and blockchain services into smartphones as one seamless experience.

Currently, 98% of the smartphone industry is dominated by Android and iOS. Google and Apple decide, and control, what is being integrated into these devices and which applications shall have screen presence.

Google has very strict agreements with all the device vendors and original device manufacturers shipping Android devices with Google services, such as the Play app store. One of the agreements, called MADA, basically determines that the user interface shall not be modified and that the Google core services shall be the default services, and in prominent positions in the UI. Moreover, Google and Apple guard their app stores carefully, and will certainly have their say in allowing decentralized applications, which bypass their in-app purchasing mechanisms and related fees, entering their app stores. Decentralized, token powered services simply do not fit into their business models. Imagine if WhatsApp or Twitter would never have been accepted to Google Play. No one would know about them.

3. We need to build an open and independent smartphone platform for decentralized services to ensure that our private data or transactions are not used without our consent.

Building the Ethereum powered open mobile ecosystem

Zipper aims to build five key cornerstones to create the blockchain powered open mobile ecosystem:

1. **Zipper platform**, an Ethereum based open smartphone runtime environment which supports Ethereum and other blockchain protocols and dapps natively and securely.
2. **Developer & community program for Sony Xperia** devices to empower dapp developers to integrate their services to Zipper platform and to engage pioneer users.
3. Strong mobile **dapp ecosystem**, partly funded by Zipper project, to provide Zipper platform's users the services they need, easily and safely.
4. **Distribution** of Zipper platform to the hands of users through Android and Sailfish OS device vendor partnerships, a downloadable platform, and disruptive sponsoring and lending device models.
5. Passionate **user and developer community** empowered by **ZIP token**.

Each of these cornerstones will be addressed in this whitepaper.

3 Zipper platform supports decentralized mobile services seamlessly and securely

Zipper platform is our solution for making Ethereum and blockchain powered services accessible to smartphone users around the world. Zipper is a full-stack mobile runtime environment for decentralized protocols and dapps, fully separated from operating systems such as Android, running side by side on the same hardware.

Zipper platform aims to enable a trustable, beautiful, out-of-box experience that *just works* and makes it easy for the masses to start using blockchain based services.



Image 1. Zipper platform enables core blockchain services to be integrated to smartphones, out-of-the-box. **Note:** app icons are for illustration purposes only, not established partnerships.

Value proposition

Zipper's solution brings numerous benefits for users, developers and the decentralized ecosystem.

Everyday mobile users

Easy of use

- Can easily make cryptocurrency transactions, also to and from fiat
- Can be worry-free about private key handling and storage
- Enjoy seamless, integrated software-hardware dapp experiences
- Can access their favorite dapps whenever; Zipper platform is just a swipe away from Android or Sailfish OS home screen

Data control

- Can trust that their device does not collect private data when using Zipper platform
- Can choose which data to share and with whom

Earning

- Can get paid in tokens for shared data
- Can monetize storage, computing, knowledge, and other assets

Dapp developers

Distribution

- Get a new distribution channel to reach users; Zipper platform users will have direct access to the services integrated into it

Smooth user experience

- Can integrate their services "deeply" into smartphones and build Apple-like seamless user experiences

Ethereum & decentralized ecosystem

Adoption

- Drives Ethereum and blockchain adoption around the world

- Makes Ethereum and blockchain approachable and easy to use for the average consumer

Collaboration

- Encourages collaboration among various protocols and dapp projects, to provide seamless mobile experiences

Architecture & key features

Zipper platform is based on several open source technologies and is planned to work in multiple Android and Sailfish OS hardware configurations, either side by side with the OS to ease adoption, or on its own.

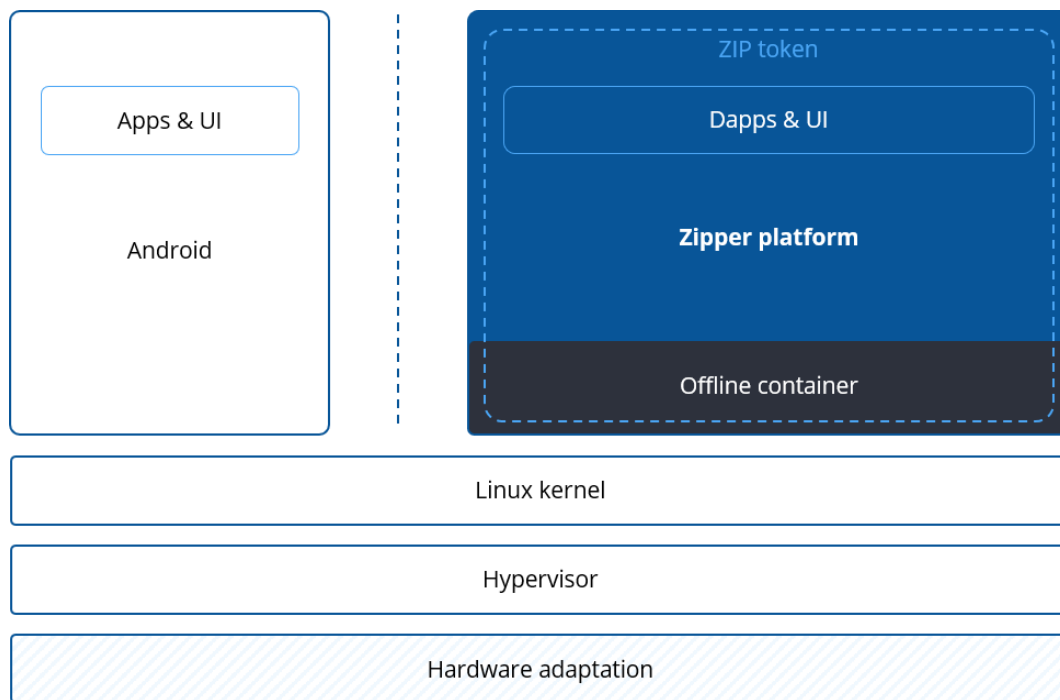


Image 2. Zipper platform is fully separated from Android, running on the same hardware side by side.

Secure containers

Zipper platform provides a secure, open source environment for hosting blockchain services and dapps in separated containers, that can be also accessed through the Android UX through an internal network on the device, where untrustable Android applications would not be able to reach private information such as encryption or signing cryptographic keys or encrypted data.

Easy handling of private keys & identity

Cumbersome use and storage of one's private keys and identity management are some of the key hurdles in the current cryptocurrency experience. Zipper aims to solve this challenge by utilizing Shamir's secret sharing to private key management.

The users' main cryptographic identity (mnemonic) is never fully stored on the device, but is split up through Shamir's secret sharing and stored partially in an online service provided by Zipper (or another service of the user's' own choosing). This second piece of the split secret is encrypted with a key only available on the device.

Upon device boot-up, the pieces are put together and decrypted with a device-specific key, ideally hosted in the devices' security chip. If device is lost or stolen, the user will be able to ban the device from accessing the second piece of the split secret through another of his devices or other methods set up by user.

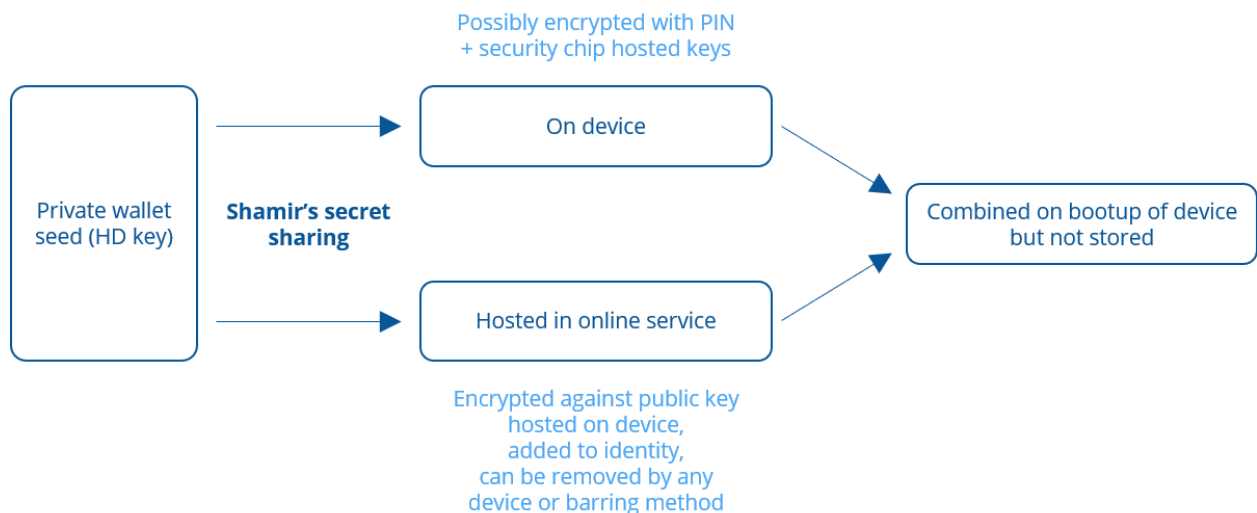


Image 3. Splitting user's cryptographic identity with Shamir's secret sharing.

The key management software also provides methods for enabling passphrase-accessed mnemonic derived keys akin to the feature of Visa PayPass where only fund transfers above a certain amount require a PIN, so a frictionless experience is achieved for smaller transactions. The Zipper project is also looking at several other options to reduce friction of using private keys, for example writeable NFC tags provided in the box for easy but secure cryptographic identity recovery in case of device loss.

Secure display overlays

Enabling further trust, Zipper platform-hosted services can also provide secure display overlays on the phone that the Android OS side cannot intercept, such as for PIN entry or viewing encrypted information.

Restricted internet access & VPN

Zipper platform does not allow internet access by default for blockchain services and dapps unless specifically allowed and provides ability for VPN-only internet connectivity.

Signed platform images & encrypted storage

The phone bootloader can be setup to only boot hypervisor and Zipper platform images that have been cryptographically signed by the user himself, increasing user trust. Zipper platform comes with an built-in IPFS client, an Ethereum light client, secure encryption key storage and signing UX. The storage area of Zipper platform is fully encrypted.

Integration of core blockchain services & seamless token exchange

Zipper platform will build an API to enable easy integration of different blockchain services and applications. Zipper will jointly, with core blockchain services projects, develop a multitoken solution, so that different tokens are easy to use for the user in connection of each service. For example, if the user has only ETH tokens in her wallet and makes an action in the Status dapp which requires use of its native SNT token, user can simply make the action and Zipper platform automatically converts some of the user's ETH into SNT tokens. This is important, as without such integration, the user experience will be like having a dinner and needing to pay for the fork, knife, plate and glass separately.

Downloadable software

Zipper platform is possible to download and install, without the hypervisor and chipset security bits, for supported existing devices that satisfy the requirements needed for the platform, such as an open bootloader and kernel source code availability, effectively creating a secure container with Zipper platform inside that the existing Android system on the phone cannot access.

First day with Zipper

What could the first day with Zipper platform be like?

John is new to cryptocurrency and he wants to get into the expanding community. He has heard that getting into crypto can be complex, as its difficult to know which wallet can be used safely, and managing private keys by printing them and keeping them safe and hidden at home frightens him. John has also heard from his friends that many people in the crypto community have been hacked, and he is worried if the transactions he does with his Android phone can be tracked and if this can lead to hacking of his wallet. He also does not know what kind of different blockchain services there are, and which could be useful for him. He finds it confusing that to use each service, he needs to buy a different token.

John heard from his friend Rachel that there is a secure, easy to use solution available called Zipper. To get Zipper, John just needs to download Zipper from the project's website and install it to his Sony Xperia Android smartphone.

After John has downloaded and installed Zipper platform, the device boots up and Zipper asks John to take a photo of his ID and a selfie to create his digital identity. Now John has a digital identity tied to his legal identity, that he can leverage with dapps that require it. The ID can also start building a reputation score based on John's community and financial activity, if John so prefers. A good score, may, for example, help John to get loans or work from other Zipper users and projects.

Next, John chooses to create a wallet. Zipper automatically generates private and public keys for John. The platform splits the private key into two or more pieces, and asks John where he would prefer the pieces to be stored. John decides to store one part into his phone, and one part into a trusted decentralized storage service. When John makes a small everyday transaction, he just identifies himself with a fingerprint sensor. After identification, the device pulls both parts of the private key and triggers the transaction.

Now John opens his wallet. He is happy to see that there is already 20 ZIP tokens deposited on his account as a welcome gift from Zipper. He has heard that he can earn money in the blockchain space in various ways, for example, by mining cryptocurrencies or by renting his device's processing power or storage. John also starts renting his device's unused storage, and sharing his mobile data package through a hotspot in case someone in the neighbourhood needs internet access; a nice way to earn some tokens and help others.

John continues exploring Zipper by opening its dapp store. He browses through various blockchain based services, with the most interesting ones curated to the main page by the community. John opens a career portal. Although John is not actively looking for a new job, he is interested to see if there are small gigs which he could do in a few hours of his space time. John notices that someone is asking a technical opinion on a software package he knows well, with a 100 ZIP tokens reward. John decides to write the analysis after the reputation score connected to John's ID gives him a chance to offer his services in this area. John gets the gig, delivers it in a few hours, customer accepts the work, and the ZIP tokens are released to John.

John also notices that he can earn ZIP tokens by recommending the people he knows. He immediately recognised one of his friends using Zipper and gives her a recommendation. John gets a reward of 10 ZIP tokens.

What a nice first day for John in the crypto world!

4 Developer & community program for Sony Xperia and current state of project

Developer & community program for Sony Xperia

Zipper will develop the first version of Zipper platform for Android and Sailfish OS powered Sony Xperia device. The goal is to empower dapp developers to integrate their services into Zipper platform through a dedicated developer device, and for pioneer users to get early access and give feedback.

On the device, Zipper platform will run separately from Android or Sailfish operating system, while being accessible with a single swipe from the home screen.

For Sailfish OS support, Zipper has partnered with Jolla, a Finnish developer of the open and independent Sailfish OS. Earlier, Jolla and Sony have jointly developed a software solution which enables Sony Xperia X owners to replace Android OS with Sailfish OS just by downloading and installing it to their device.

More information about the collaboration of Sony and Jolla: <https://blog.jolla.com/sailfishx/>



Image 4. Sony Xperia X with Sailfish OS (source: Jolla).

R&D roadmap towards phase 1

Zipper project works to reach three milestones to bring Zipper platform to developers and early adopters.

Milestone 1: Zipper platform for Sony Xperia (Q1 2018)

In the first phase, we plan to implement the following:

- Vault key storage supporting per-dapp private storage separate from Android OS
- Cryptographic identity recovery through NFC tag + saving through setup
- Device provisioning and device access revocation through other devices
- Signing UX
- Working API for dapps to integrate with Zipper platform, compatible with web3.js
- First release Zipper platform for Sony Xperia device

Milestone 2: Integration of core services (Q3 2018)

In the second phase, we plan to integrate selected core blockchain services into the platform:

- Mobile usecase friendly distributed file storage integration (IPFS)
- Data mirroring token integration and API (Filecoin or likes)
- KYC collection, integration and whitelisting of a subset of identity keys, usable across all dapps on device in collaboration with a partner
- Cryptographic identity and contacts database integration
- Android Zipper platform integration, including app launcher integration of installed dapps
- Non-Google Chrome browser integration for dapps
- Mobile security chip integration for per-device key storage and secure display overlays

Milestone 3: Zipper platform for several devices (Q4 2018)

In the third phase, we plan to launch Zipper platform for several Android devices:

- ODM integratable Zipper platform solution
- Deterministic source code builds of Zipper platform
- Containerisation of existing Android system capability - Zipper platform as host system on device

ZIPPER - Mobile platform bringing blockchain to the masses

- Device rental capability through partner integration
- Integration with mobile security chip and allowing end-users to pick keys for Zipper platform image signature verification
- Prototypes of Zipper platform for other devices (smartwatches, tablets, TV)
- Ability to extend cryptographic identity usage across non-Zipper platform devices such as browsers on laptops

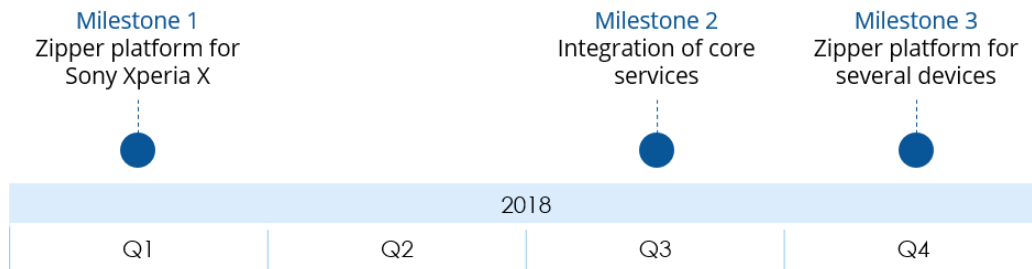


Image 5. Zipper project R&D roadmap for 2018.

How we got here

We launched and seed funded the Zipper project in mid-2016, initially developing Ethereum based identity management and secure, smart contract powered transactions for mobile with the perspective to make blockchain accessible to everyone.

Since then, we have identified numerous challenges and opportunities in the decentralized space which we believe can contribute to, from creating a new user-controlled mobile ecosystem to frictionless use of Ethereum and smarter way of funding promising projects.

In 2015, before the creation of the company, we initially began exploring the possibilities of blockchain and dapps on mobile devices under the working title 'The Human Web' (<https://github.com/thehumanweb/notes/wiki/InfoPackage>) and began designing how a mobile experience would look, that would out of the box empower people worldwide to be able to leverage the abilities that these technologies offer.

This brought us on a journey through different challenges, concept designs and experiments where we quite early on had prototypes that used IPFS and Ethereum clients on mobile and remote nodes for querying the blockchain to save on bandwidth and processing. We then began exploring how these ideas could reach a wider audience,

including investigating how we would introduce such a mobile experience in sub-Saharan Africa.

Through the Africa activities, we developed our thoughts surrounding Frictionless Ethereum - the reduction of the difficulties an ordinary user will have trying to begin using dapps or token in order to create a frictionless experience.

These thoughts led us to the Zipper platform concept as presented in this whitepaper and provided the seed for additional use cases of the mobile experiences in these markets, such as easy smart contract controlled escrow in P2P trade.

Moreover, during spring and summer 2017, we created a new kind of investment model to invest into ecosystem projects securely. We developed a milestone based investment model where projects receive funding in tranches according to pre-agreed milestones. For example, many ICO projects would be better and more safe investments if the funds would be released based on the milestones met.

These concept explorations and experiments are now coming together through combining our history in mobile OS development, experience in getting devices into the hands of our customers with the changed perspective on the future of apps and OS architecture that blockchain provides. A out of box experience for the possibilities that blockchain gives us that everybody can be empowered by.

5 Building the application ecosystem

Building an ecosystem is both critical for the competitiveness of the Zipper platform and for the economy of the ZIP token. A large ecosystem can provide wide competitive set of services to its users. This is why Google's Android is currently superior: It has so wide and competitive ecosystem than it has become an entry barrier for the competitors to provide similar level of services. For the token economy, large ecosystem means wide distribution and use of the token.

Zipper will build its platform's application ecosystem in three ways:

1. Partnering with large ongoing blockchain projects
2. Investing into ecosystem projects
3. Rewarding application developers with ZIP tokens

Partnering with large ongoing blockchain projects

Zipper is looking to partner with several large ongoing blockchain projects which will provide the core services for Zipper platform users. Initially, Zipper plans to partner with projects developing:

- Digital identity
- File sharing & storage
- Decentralized app store
- Search
- Data monetization and sharing
- Computing
- Messaging
- Finance & insurance

By working together with the core blockchain projects, we believe we can build an easy to use, integrated service ecosystem.

Investing into ecosystem projects

Zipper will use roughly one-third of the funds raised in its token sales to invest into projects which we see critical for the Zipper ecosystem to prosper. The projects Zipper will be investing in will commit to use ZIP tokens in their solutions. This will further increase the demand for the ZIP token. So far, Zipper has identified the following projects to be invested in:

- Fiat and cryptocurrency online bank solution
- P2P insurance service
- Mobile financial platform for the unbanked
- Independent AI platform for mobile
- Blockchain search engine
- Employment portal for the developing countries
- Digital education portal
- Secure messaging application with avatars

All of the projects have a working product and have more than three million active users in total. With Zipper's investment, these projects will be able to scale further and reward and grow their own user communities with ZIP tokens. We can provide more information about the projects upon request.

Zipper makes the investments using safe milestone based investment model, where projects will get funds in tranches based on reaching pre-agreed milestones.

Rewarding application developers with ZIP tokens

Zipper will fertilise young ecosystem projects by rewarding them with ZIP tokens applications developed to the ecosystem. For many nascent projects, early seed funding might be extremely difficult to get even if they have excellent ideas. At the same time, the projects are at too early stage to make an ICO/token sale or receive VC funding. We have reserved 20% of the ZIP tokens for incentivising these early stage projects to develop services to the Zipper ecosystem. Zipper community will have a say on which projects will be rewarded with ZIP tokens. Moreover, Zipper platform's curation market mechanism will incentivise developers to build apps to the platform (more on that in later chapters).

6 Getting decentralized world to the hands of smartphone users

Developing Zipper platform, funding and integrating core services into it, and building a strong developer community is the first part of Zipper project's journey. The second part is to get the Zipper experience to the hands of users around the world.

Zipper's go-to-market strategy has three phases:

1. Commercialize
2. Scale with device partners
3. Scale with downloadable solution

	Commercialize	Scale with device partners	Scale with downloadable solution
Timeline	2018 - 2019	2019 - 2021	2021-2023
Target customers	Cryptocurrency users	Smartphone users in emerging markets	Smartphone users globally
Size of market	10-50 million users	2 billion users	4 billion users
Target number of Zipper users	1-5 million users	30 million users	100+ million users
Device partnerships	Sony	5-6 partners	Most devices in the market
Supported operating system	Android Sailfish OS	Android Sailfish OS	Android Sailfish OS

Table 1. Three phases of Zipper's go-to-market strategy.

Phase 1: Commercialize

At first stage, Zipper will target the growing market of cryptocurrency users by solving the key problem of the industry – cumbersome management of private keys. The current size of this market is approximately 10 million users, and with the current base of growth, it can

reach 50-100 million users in the next five years. The early adopter cryptocurrency user market will help Zipper to commercialise its solution and to scale into first 1-5 million users.

Phase 2: Scale with device vendor partners

Smartphone users in the emerging markets are faster to adapt new concepts than developed markets. Emerging markets are not matured yet, and people react sensitively even to small rewards, due to their lower income level.

Zipper has multiple existing device vendor partnerships around the world in China, India, South-America and Africa. Zipper can bring its solution to market through these partnerships as a pre-installed solution in their devices. At this phase, regional approach is optimal, as Zipper still needs to build and prove its reward solution model to regional sponsors.

In total, these device vendor partners sell currently more than 30 million smartphones annually. Zipper could realistically target to be in 1/3 of these devices, and reach a base of 10 million users.

Phase 3: Scale as downloadable solution

Once Zipper has established wide portfolio of sponsors globally as partners in its reward solution, Zipper solution can be downloaded globally to devices. The wide portfolio of sponsors will ensure the competitiveness of Zipper's solution, and users will have an incentive to download the solution as they know that they will benefit from the reward solution.

At this stage, the Zipper application ecosystem has also become competitive with several blockchain based new and value adding apps, which will further drive the demand of the Zipper solution. The size of the downloadable software market can be significant. In China alone, the market of downloaded Android versions is around 100 million annually.

7 ZIP token

Our objective for designing Zipper's token economic model is to create a cryptocurrency based reward system for mobile operating system in many to many economy, where every user can earn rewards with their smartphones. We have used the following key design principles for the reward system:

1. It improves current market players competitive position

Zipper aims to bring more value to regional smartphone ecosystem players like device vendors, ecommerce players or application developers by rewarding users from using their services.

2. It enables users to earn with their smartphones

Zipper solution will enable users to earn with their activity in purchasing and inviting new users to the sponsors/service providers.

3. It provides an easy entry also for non-cryptocurrency users

The user does not have to be familiar with cryptocurrencies as ZIP token will be just a reward token used in the solution. User will gradually learn the value of ZIP tokens as they learn what they can do with it.

4. Its scale is not limited by blockchain's transaction capacity

As a reward token, ZIP's transaction speed is not critical. Users will receive ZIPs in batches, and are not time sensitive on when the ZIP batch will arrive.

5. Token has a natural demand and re-spend model

The sponsors' economic need to incentivise the users will create a natural demand for ZIP tokens. Users will have various ways to re-spend ZIP tokens, which will be introduced later in this chapter.

ZIP tokens natural demand and re-spending model

The Utility value (U) of the Zip token is defined by the Dollar demand of the token (PQ) divided by Supply of tokens (S) times re-spend (RS) of tokens.

$$U = (\text{Dollar demand (PQ)}) / (\text{Supply of tokens (S)} * \text{re-spend(S)})$$

The dollar demand of ZIP token (PQ) will derive from the service providers integrated into the operating system. We will call them sponsors. Sponsors can be ecommerce players, retail chains, travel companies, airline companies, big data providers, operators or other applications.

Sponsors will purchase ZIP tokens from the market and ZIP tokens will be used to reward the users from their activity. For example, activity can be a purchase of services or products from sponsors, new customer acquisition, or social media marketing.

Users can re-spend their ZIP tokens in several different ways:

1. Participate on curation market by betting the future popularity of the applications
2. Sponsor new application developers from developing new interesting apps
3. Buy discounts and other benefits from sponsors
4. Trade and lend ZIP token among themselves or in the cryptocurrency markets

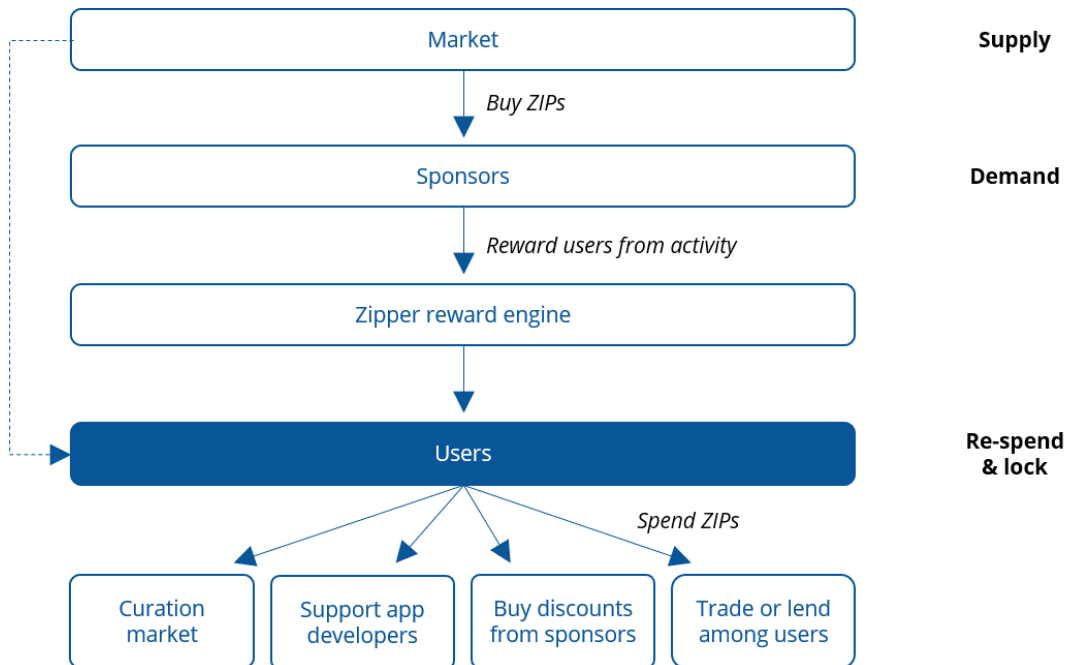


Image 6. ZIP token flow.

Curation market

The purpose of the curation market is to incentivise development of applications for the Zipper store and power discovery for those applications.

How it works:

1. Developer submits application to the Zipper store and to do this he needs to pay, for example, 1 ZIP. This could also be a dollar value-based price or a perpetually decreasing ZIP-priced cost. This fee goes into the ecosystem development pool (discussed later).
2. Users can bet on the future popularity of the application by also staking ZIP, but the amount a user must stake to participate increases in perpetuity. E.g. User #1 needs to stake 2 ZIP, User #2 needs to stake 3 ZIP, etc. (Could also be exponential = #1-2 ZIP, #2-4 ZIP, etc). Developer can also bet on the future popularity of its own application by staking as the first user, which creates a viable method for generating revenue even from applications that don't have an in-built business model.
3. A user can at any time remove their stake and be rewarded if they were correct in predicting popularity. Reward is calculated as follows: Total ZIP staked / amount of users participating.

This means that users who are in the first 50% of predictors make money and users in the last 50% of predictors lose money.

This relatively simple mechanism achieves the following dynamics:

1. There is a financial incentive to create applications for the Zipper store (both with and without in-built business model)
2. There is a financial incentive for users to curate the app store.
3. There is a small cost to adding an application to the app store to avoid spam and to fund further ecosystem development.
4. There is no cost to using the app store as a regular user.
5. There is no clashing incentive with in-app business models
6. Users participating in this prediction, will have a financial incentive to promote the applications they have bet on, leading to free marketing for applications.

Sponsor app developers

User can also use ZIP token for sponsoring his favourite app development project. The app development project can then further incentivise their personnel and subcontractors with ZIP tokens, which they can eventually sell to the market.

Buy discounts from sponsors

Users can use ZIP tokens for purchasing additional discounts from sponsors for their purchases. For example, an ecommerce player will be able to give additional discount to the user against ZIP token, as they can use those ZIP tokens for rewarding other customers and ZIP has actual fiat value to them.

Trade or lend ZIP tokens to other users

The ZIP token becomes a regionally accepted reward token, as multiple regional service providers will take the reward system in use. The users will see clear value in the ZIP token, similarly that users see clear value in airline loyalty points. This time the reward tokens are tradable, so users can sell the ZIP tokens to each other or borrow the token and earn interest from them.

Summary of the benefits of the Zipper token economic model

The benefits of the above described token economic model are:

Supply (S): The limited supply will have positive impact on token economics. Supply is limited to fixed 1 billion ZIP tokens, and token are released to the market gradually during long time period.

Demand (D): Sponsors get clear benefits by rewarding the users only from the positive activity related to their services. The link between activity and reward is very clear. Positive impact from the reward model will increase the demand of the tokens, as the sponsors will be see the clear benefits from their investment.

Re-spend (RS): There is incentive for the user to re-use the token in multiple alternatives areas, which all benefit the user.

Issuance & allocation

The total number of ZIP tokens is limited to 1 billion. ZIP Trust releases these ERC20 tokens gradually over several years to Zipper ecosystem participants as rewards for supporting the growth of the ecosystem.

Allocation of ZIP tokens:

- **25% token sales**
- **40% ecosystem: developers, community & partners** (released over several years)
- **20% Team & advisors** (vested and gradually released over two years)
- **15% Zipper Global Ltd** (vested and gradually released over two years)

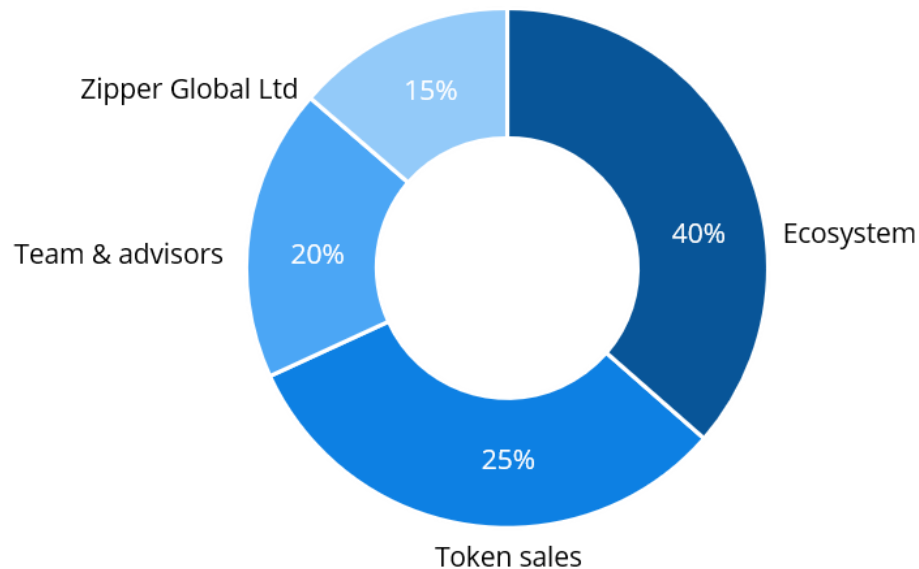


Image 7. ZIP token allocation.

Governance

To successfully build an ecosystem, it is essential to reserve a large part of tokens to be used for ecosystem development activities. On the other hand, the usage of such tokens need to be governed based on a clearly defined policy, without power struggles and personal interests having an opportunity to change the policy. A trust is an excellent legal instrument for this purpose. A trust is a recognised legal relationship which holds assets

(such as tokens) and has clearly defined rules how those assets should be used. The strength of the trust as holder of reserve tokens is that the pre-defined usage of the tokens can not be changed by anybody. The trust and a smart contract work together extremely well as a smart contract can execute the token allocations based on the trust rules as written into the smart contracts.

The ZIP Trust manages the issuance of ZIP tokens, according to predefined terms coded into the ZIP token issuance smart contract. The contract is based on OpenZeppelin standard tokens and will be audited and available for viewing before the Zipper platform is launched and ZIP token released.

Besides these predefined allocation terms, we are currently considering different options to utilize ZIP token in the governance of the Zipper project and seeking the ideal incentive model and coordination mechanism. For example, it would seem wise to design a governance system which incentivises the participants who are benefiting from the network the most to hold tokens.

Token supply & vesting over time

ZIP Trust's smart contracts release ZIP tokens to designated uses and pools over several years' time after the ZIP token launch. Current release plan is stated in table 3 and image 8. Note that the release plan and schedule might change in the coming months as we develop the optimal supply and vesting plan together with our community and advisors, before the ZIP token is released.

	Tokens released by end of year, cumulative				
	0	1	2	3	4
Token sales	250,000,000	250,000,000	250,000,000	250,000,000	250,000,000
Ecosystem: developers, community & partners	0	80,000,000	150,000,000	210,000,000	260,000,000
Team & advisors	0	100,000,000	200,000,000	200,000,000	200,000,000
Zipper Global Ltd	0	75,000,000	150,000,000	150,000,000	150,000,000
Total	250,000,000	505,000,000	750,000,000	810,000,000	860,000,000

Table 2. ZIP token supply over the first four years.

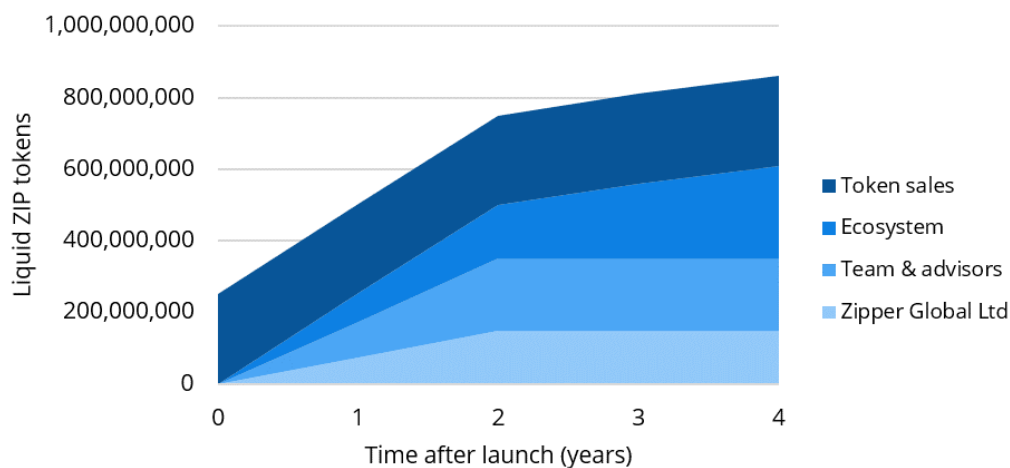


Image 8. ZIP token supply over the first four years.

Token sales

The details of ZIP token sales such as availability, schedule, pricing, vesting and terms and conditions will be announced in a separate token sale document.

Token specification

ZIP token will be implemented as ERC20 token on Ethereum. A smart contract maintains token balances and ensure that payments are handled in a trustless and secure way. To further aid the transaction scalability of ZIP token, we have opted to keep the implementation of the token as simple as possible by essentially staying as close to pure token functionality (transfers, balances) as possible, to be able to leverage Ethereum community wide efforts in scalability of ERC20 tokens transfer. This will make it easier to conduct transfers of ZIP tokens using solutions such as Plasma or Raiden state channels and keep our options open in case of other, better technologies emerging.

8 Team & advisors

The core Zipper team consists of founders and former executives of Finnish mobile company Jolla.



Dr. Antti Saarnio, Founder and Executive Chairman

Co-founder and Chairman of Jolla, developer of open mobile operating system Sailfish OS. 15+ years experience on emerging markets and investment management from KPMG, Accenture, East Partners. Dr.Tech. in Strategic Investments.



Carsten Munk, CTO & Co-founder

Founder of Mer mobile open source community project. Pioneering work on Linux/Android stacks for Nokia and later for Jolla as CTO. Team's leading blockchain expert. M.Sc. in Computer Science.



Pasi Rusila, COO & Co-founder

Former head of products and business development at Jolla. Have built and launched several consumer products and partnerships with Fortune 500 companies. M.Sc. in Industrial Management.



Antti Enqvist, CLO

Former CLO and Legal Counsel of Jolla, Nokia, Symbian Foundation, and others. Masters legal and technical side of software business, experienced in corporate structuring. LL.M. in Law, M.Sc. in Information Technology.



Tom Swindell, Software

10+ years extensive software work for mobile companies such as Nokia and Jolla. Expertise include Telephony, VoIP, middleware, hardware Adaptations, C, C++, and Solidity/Ethereum.



Robert Pallas, Software

Partner and lead developer at Devtailor. Experienced entrepreneur and software development team leader. M.Sc. in Cyber Security, 2012 thesis about Bitcoin Security.



Niilo Ristmeri, Marketing & Business Development

Serial entrepreneur and expert in agile marketing. Formerly marketing and sales in Jolla and Embassy of Design. B.BA. in Marketing and Management Consulting.



Marc Dillon, Community Ambassador

Head of software at Zen Robotics. Previously Co-founder and COO of Jolla, 10+ years in various software positions at Nokia.



Teemu Päivinen, Advisor

Currently Spacegrade and Zeppelin Solutions, Founder & Chairman of Oddshot.tv. Entrepreneur and investor focused on blockchain and governance.



Matthew Graham, Advisor

Founder and CEO at Sino Global Capital. Bridging technology with China investors and partners with years of investment management experience.

Part-timers: In addition to the core team, Zipper project currently involves a handful of part-time members contributing to the project in the fields of software R&D, marketing and communications, and business development.

Advisors: In addition to the current advisors, Zipper team is currently in discussions with several highly respected members of the society with a wide range of expertise. More advisors will be revealed in due course.

Additional material

Zipper blog

06/2017: Startup funding can be disrupted with tokens

<https://medium.com/zipperglobal/startup-funding-can-be-disrupted-with-tokens-62acbce99bd0>

07/2017: Is frictionless Ethereum (and dApp) usage possible?

<https://medium.com/zipperglobal/is-frictionless-ethereum-dapp-usage-possible-a9cd5b01b835>

08/2017: Smart contracts could hold property with Instant Blockchain Token Trusts

<https://medium.com/zipperglobal/smart-contracts-could-hold-property-with-instant-blockchain-token-trusts-fe57ab6e4b28>

09/2017: Belief pools — no public offering of tokens needed

<https://medium.com/zipperglobal/belief-pools-no-public-offering-of-tokens-needed-8317354342f6>