mybit

White Paper

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Abstract

MyBit is an IoT investment ecosystem powered by Ethereum. Founded in Switzerland by industry veterans, MyBit believes that people should be able to follow their passion instead of having to work to survive.

By redefining the way people generate income, MyBit strives to democratise financial services so everyone has equal access to investment opportunities. This becomes critical when the future machine economy automates 800 million jobs by 2030 (Mckinsey, 2017) and the average person, whose job is automated, has no ability to participate in this new economy.

MyBit provides an ecosystem for the upcoming 11.1 Trillion dollar IoT industry (Forbes, 2017), with the belief that everyone should have an equal opportunity to participate in this revolution.

Introduction

The Internet changed humanity significantly. Now there is a new technological revolution on its way. It is predicted that by 2025, 50 billion IoT devices will generate an astonishing 11.1 trillion $ in revenue. Every industry and occupation will be affected under the fast development of autonomous machines. Mckinsey (2017) calculated that 50% of all global working-hours can be automated with currently demonstrated technology already. This machine transition will have an impact on 30% of all jobs by 2030. MyBit provides an ecosystem for the upcoming 11.1 Trillion dollar IoT industry, with the belief that everyone should have an equal opportunity to participate in this revolution.

MyBit believes the ecosystem being designed is of vital importance to the future moving in the right direction for the world's population as a whole. Current investing procedures are broken with high risk due to people having to entrust third-parties with their personal money, excessively high fees, slow distributions of profits, and above all high capital barriers to

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entry which results in the top 1% (economically) of the population obtaining unequal access to the most profitable deals.

MyBit solves this issue by focusing on using Blockchain technology to create an open, fair, and efficient investing ecosystem that is available to everyone. The Ecosystem is comprised of the MyBit DApp, a decentralised investing platform, and MYDAX, the world's first decentralised exchange for IoT assets, which creates liquidity that historically has never been available in many markets.

Business Model

MyBit is categorized as an Investment and Financial Services Platform under the Financial Technology sector. This means that MyBit is a toolkit/ software application to streamline investing and associated activities, but is not in the business of managing money nor making decisions on behalf of clients.

Parent Organization: MyBit Stiftung (Foundation registered in Zug, Switzerland with registration number: CHE-177.186.963)

Operating Entity: MyBit AG (Limited company registered in Zug, Switzerland with registration number: CHE-192.841.841)

MyBit's operations were funded via a tokensale which concluded in August 2017 with a total of 10.044 Ethereum contributed, resulting in 101.039.183.84447 MYB being released to the public. As of 23.5.2018, the MyBit Foundation retains 78,960,816.155527 MYB which it may elect to sell or otherwise release at a future date to finance continued operations in relation to the development of the greater MyBit Ecosystem.

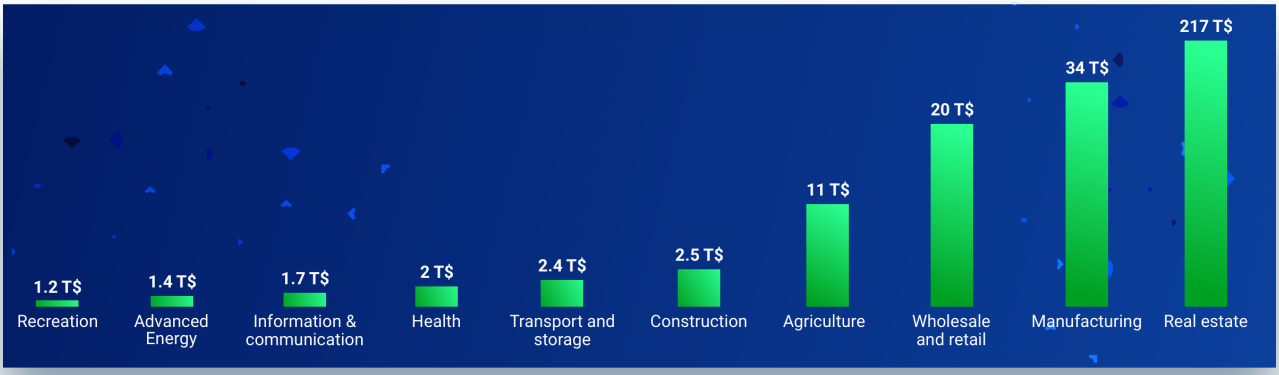
MyBit has a basic monetisation strategy of charging a 1% fee to all assets funded over the MyBit investment platform (MyBit DApp). This fee is designed to sustain long term operations and continued innovation over the foreseeable future.

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Areas of Opportunity

MyBit was designed to bring investing, trading, and the exchange of assets into the 21st century to create a more secure and robust experience for everyone ranging from individual to institutional investors. Currently investment models are outdated and do not have technology efficiently integrated which equates into high management fees, slow revenue distribution, lack of liquidity in many alternative asset markets, and an inherent risk of trusting third parties with personal capital.

To effectively achieve goals of a faster, more secure, and cost-effective investing ecosystem we designed the MyBit ecosystem to be built on top of Ethereum, to tap into the power of smart contracts, which are a secure and efficient method for executing investment terms and other financial processes. Smart contracts are computer code that executes actual as programmed, so we are able to digitalise processes from current financial models and eliminate many inefficiencies and human interactions. Since it also functions as a payment system and does not just have logic execution capabilities, we can also eliminate the need for bridging together many different systems such as a payment service, investment book-keeping logs, and accounting software.



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Opportunity 1: An automated investment system

This use case effectively removes the need for a broker to facilitate transactions between investors and the assets they are placing their capital into. It provides a more cost effective solution due to computers being much less expensive to maintain than humans. It also provides a more secure environment because your funds flow directly to the investment asset without having to be in control of a third-party at any time.

Opportunity 2: A revenue distribution management system

This use case streamlines the payment of dividends, revenue distributions, and other forms of profit disbursements. As an investment generates income, smart contracts automatically transmit the funds to the investor in real time. Under current models, real time is not feasible do to human involvement in aggregating and distributing capital. Similar to the use case of an automated investment system, this also is a more secure process as a third-party is never in control of personal capital.

Opportunity 3: A decentralised asset exchange

MYDAX, the MyBit Decentralised Asset Exchange is designed to create liquidity in historically illiquid alternative assets in the fields of, but not limited to, energy, property, transportation, financial and smart devices such as 3d printers and cryptocurrency ATMs. To date when investing in alternative assets, investors often have difficulty liquidating their stakes and must wait for a full return on investment from revenue to realise gains. Alternatively, they may have the option of finding a buyer, normally through a broker service, to purchase their ownership stake; however, this process is often expensive and highly time consuming. MYDAX integrates a fractional ownership exchange and matching protocol to allow investors to create a market which seamlessly finds a buyer or seller for a specific asset and also enables fractional ownership buying and selling. Meaning asset owners can sell a piece of their stake, instead of an all or nothing model which is the current norm. MYDAX can operate independently from

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the MyBit investment platform which gives it substantial versatility across market sectors.

Architecture

Front End

Both the MyBit investment platform and MYDAX are web self-hosted applications that connect to our smart-contract platform in order to function. Their frontend is composed by the following major elements, all of them open-source to the community with a proven track-record of their usability and maintainability:

React.js (https://github.com/facebook/react/)

The Facebook sponsored popular tool React is the initial piece in a series of building blocks for our user interface. Using the popular web language JavaScript, React helps us to build efficient and flexible small UI components that we then glue together in order to create user stories.

Storybook.js (https://github.com/storybooks/storybook)

Storybook allows us to define complex interfaces by visually integrating React components previously constructed. As the name says, it contains the stories in a book-like form, showcasing how users will perform their actions within the platform. Storybook is in a way the blueprint-development tool for our applications, allowing to see a high-level view of the platforms.

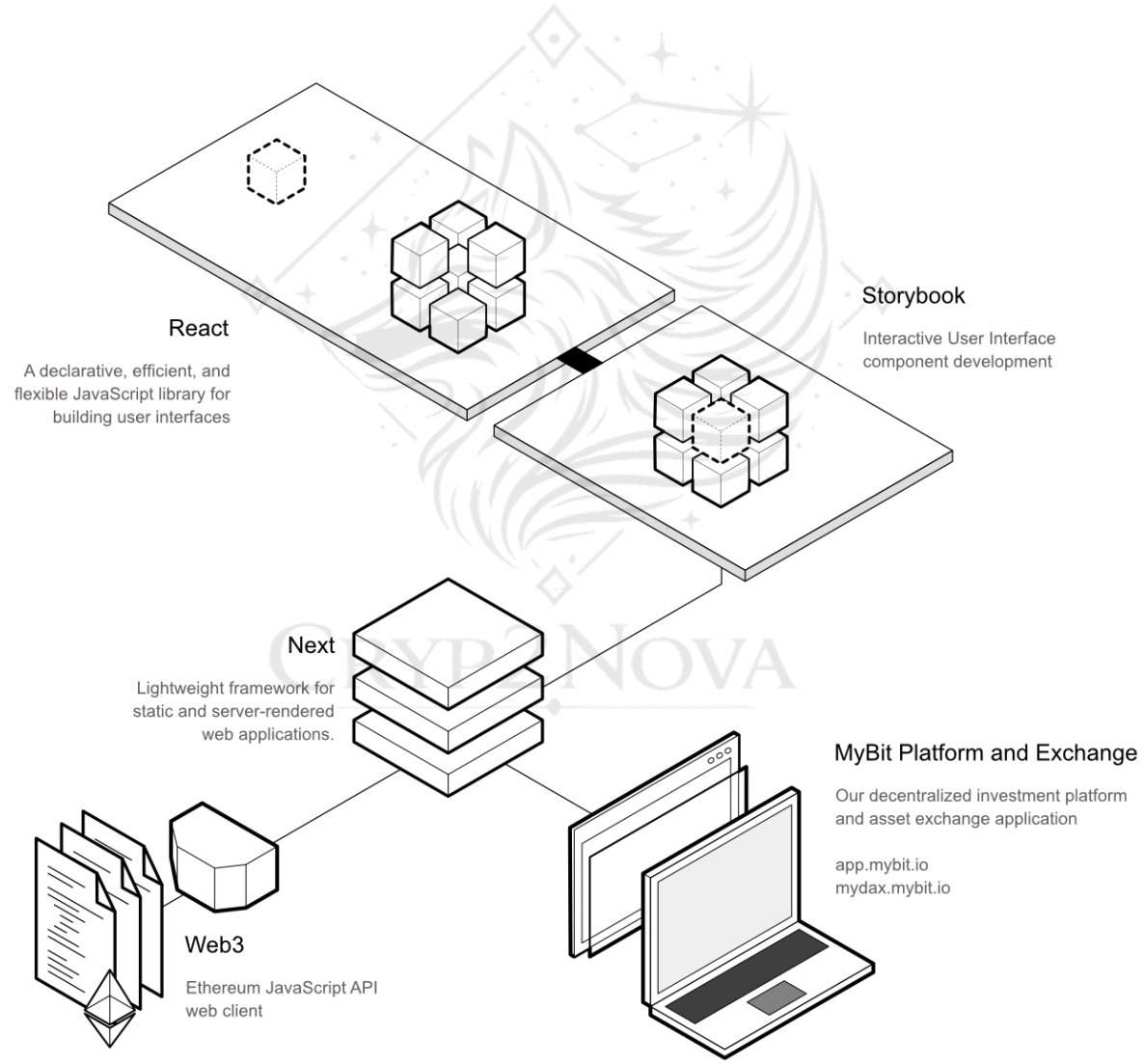
Next.js (https://github.com/zeit/next.js)

In order to render our application into a static website, while still relying on server-rendered logic on development, we use Next. Next is a company sponsored light-framework that integrates and renders our React components into HTML ready pages. We can then host these HTML pages into a decentralized friendly hosting service like IPFS.

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Web3.js (https://github.com/ethereum/web3.js/tree/v1.0.0-beta.34)

An important piece within our ecosystem is Web3, which is the Ethereum developed JavaScript implementation that allows web applications to communicate with our Smart Contracts through a Web3 supported interface like the chrome extension Metamask or the Consensys sponsored platform Infura. Web3 sits on top of our components in order sync the data with the interface.



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Smart Contracts

The MyBit smart-contract platform is built to allow the decentralized crowd-funding of assets, automating the distribution of revenue . All contracts are written in Solidity and follow design patterns that force each user to pay for their own computation costs. Interactions with the platform will burn a small amount of MyBit tokens associated with MYB price and current fiat values. All contracts are built to be upgradeable by storing long-term data under 32 byte length keys in a permanent contract, while complex logic is handled in contracts that can have write privileges removed and swapped for a new contract that implements protocol changes. Upgrading contracts requires owners to agree sign the address of the replacing contract. All critical functions that may result in the movement of Ether/MyBit or important data changes can be paused by the owners of the platform. The platform is currently written to have 3 owners who must have a consensus for any critical functions to be called. Using this consensus agreement removes the risk involved in having one Ethereum wallet gain control over the whole platform.

Upgradeability

This contract stores all data in mappings which can be referenced with a bytes32 key, which is produced from the sha3 hash of variable names with associated ID's and user addresses. This will be the only contract on the platform that is not upgradeable, since it holds all the data on the platform. For this reason it is written very simple and robust, only taking bytes32 keys to store values. The database contract will only accept transactions originating from one of the contracts registered in ContractManager.
Contracts: Database.sol, ContractManager.sol

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Access

The user access contracts handle all authority measures on the platform. Owners can approve users for KYC, remove users, pause the platform or sign important function calls. By burning MyBit tokens, users can achieve the following access levels: 1 = Funding/Creating assets, 2 = Become Asset Manager, 3 = Ability to trade shares.
Contracts: UserAccess.sol, Owned.sol

Assets

The contracts involved in asset life-cycles are broken down into 3 main periods: creation period, funding period and distributing period. Each period is handled by a seperate contract.
Asset creation is where operators can start funding periods for new assets. Operators can lock MyBit tokens in escrow before starting a funding period for a new asset to increase trust from funders. This escrow can be retrieved by the operator according to how much return on investment the asset has returned. The funding period is where users can send in ETH to a newly created asset to buy ownership units of that asset. The contract will reward the user with shares equal to the amount that they contributed. (1 wei = 1 share). If the asset successfully meets it's funding target this contract distributes the Ether to the manufacturer and the MyBit foundation. If the funding period is a failure, users can withdraw their funded Ether. Operators can retrieve their escrowed tokens if funding period fails. The asset distribution period deals with receiving and distributing income produced by assets, as well as managing users ownership units.
Contracts: AssetCreation.sol, FundingHub.sol, Asset.sol, OperatorEscrow,

Decentralized Asset Exchange (DAX)

This is where users can trade ownership units for all live assets on the MyBit platform. Once the order is picked up, the Marketplace contract calls the Asset contract and the shares are then transferred to the new

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owner. The Asset contract will only allow shares to be transferred when called by the Marketplace contract.

Token

Access layer

The token is not used to directly fund assets since ERC20 token gas costs are roughly double that of a normal Ether transaction, they are not optimized for medium of exchange purposes. Instead MYB acts as an access token by using a proof-of-burn protocol, deriving it's value from genuine usage of the platform. Each user must burn MYB to access the platform, which decreases supply over time and increases security by increasing the cost to attack the platform.

Escrow

Asset Managers are required to lock MYB in escrow as collateral to incentivise them to perform their duties. If they are removed from their position, the escrowed MYB will be forfeited to the replacement Asset Manager. Asset Managers can withdraw MYB in proportion to the percent ROI the asset has generated. For example if an asset is at 25% break-even, meaning it cost CHF 10.000 and CHF 2.500 has been distributed to investors, then 25% of escrowed MYB is eligible for withdrawal. The percentages at which withdrawal is available are: 25%, 50%, 75%, 100%. Once the escrow is fully withdrawn, only the monthly revenue streams incentivise the Asset Manager keep the asset functioning.

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Staking

Hodlers of MYB can "stake" or post the required escrow for Asset Managers and in return receive a portion of the revenue stream assigned to the Asset Manager. Much like the free market model where Asset Managers can choose their revenue percentages of an asset they are managing, we believe that this should also be up to the discretion of the Asset Managers and Stakers. If an Asset Manager offers to low of a revenue share agreement, then in theory they will not have their escrowed covered by any Stakers. Stakers are required to post all or nothing. In the future we may implement crowdfunded staking, but currently it is not an option.

Roadmap

The development of MyBit's ecosystem is segmented over several phases.

Phase 1 - ***Q1/2***

In this phase MyBit focuses on the development of Alpha version 0.1. and the preparations for marketing. This first version of our Alpha, codenamed CELESTINE, will consist of a basic testnet infrastructure to function as a technological foundation to build on top of. This version includes an explore function with assets and a simple portfolio for users to track his/her assets. Version 0.1 will be available to a select group of community members.

On the front-end MyBit will update its complete brand identity which includes a new website, brand story and its community-management structure. A token swap will be initiated. This update is fundamental to realising the full potential of the Ecosystem from a tech and marketing perspective.

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Phase 2 - **Q3**

From this version on, UI and UX start to play an active and important role in the further development of the Alpha. An onboarding funnel, user tutorial and knowledge base will be implemented to accustom new users to the platform. Another function that will be added it the asset section where users can track their assets. The test group will be expanded for this version. In this phase the community has grown to a respectable inner-circle and all brand elements are finished to fully start with marketing.

Phase 3 - **Q3**

Phase 3 will add several important UI/UX functionalities to the platform such as notifications, animations and an asset-favourites option. This update will also introduce the user account functionality as well as the role of asset manager which includes several advanced functionalities within the MyBit ecosystem. This update enables more people to board the platform and to thoroughly test it. Marketing in this stage consists of amplifying our brand story via all the different channels that our target group(s) use. The goal is to grow our community and to spread the visibility of MyBit depending on the communities coverage. Mybit's ambition is to expand the marketing department around this time.

Phase 4 - **Q4**

The last testnet version of the Alpha will be released in Q4 and will showcase almost every aspect of the platform. This update will enlarge the test group significantly. Version 0.4 will be complimented by the launch of MYDAX, the first decentralised IoT exchange in the world. On this exchange users can buy, sell and monitor IoT assets on a global basis. Marketing of the past periods are analysed and steered accordingly. The goal is to grow our community on all channels and to expand the visibility of MyBit on a global basis.

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Phase 5 - 2019

The first mainnet platform of MyBit -the Beta-will become operational after all aspects have been thoroughly tested by our end-users. In all the previous phases selected community members have helped to develop the platform resulting in a user-friendly application. The Beta version will offer all functionalities necessary to give MyBit's users an optimal investing experience. A new roadmap will be published in this phase in order to stay accurate.

Conclusion

In this paper we have discussed the design and implementation of an IoT investment ecosystem (MyBit). It is comprised of a decentralised investment platform (MyBit DApp) and a decentralised exchange (MYDAX). It is designed to create an open, fair, and streamlined environment for the next generation of investing to give everyone equal access to the multi-trillion dollar machine economy. MyBit was founded by industry veterans and is open-sourced under GPL v3.

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MyBit Stiftung (MyBit Foundation) is registered in Zug, Switzerland. Identification number CHE-177.186.963.

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