



The architecture for global web3 adoption.

Building people and products to accelerate
consumer transition to web3

Exxample Inc. September 2022



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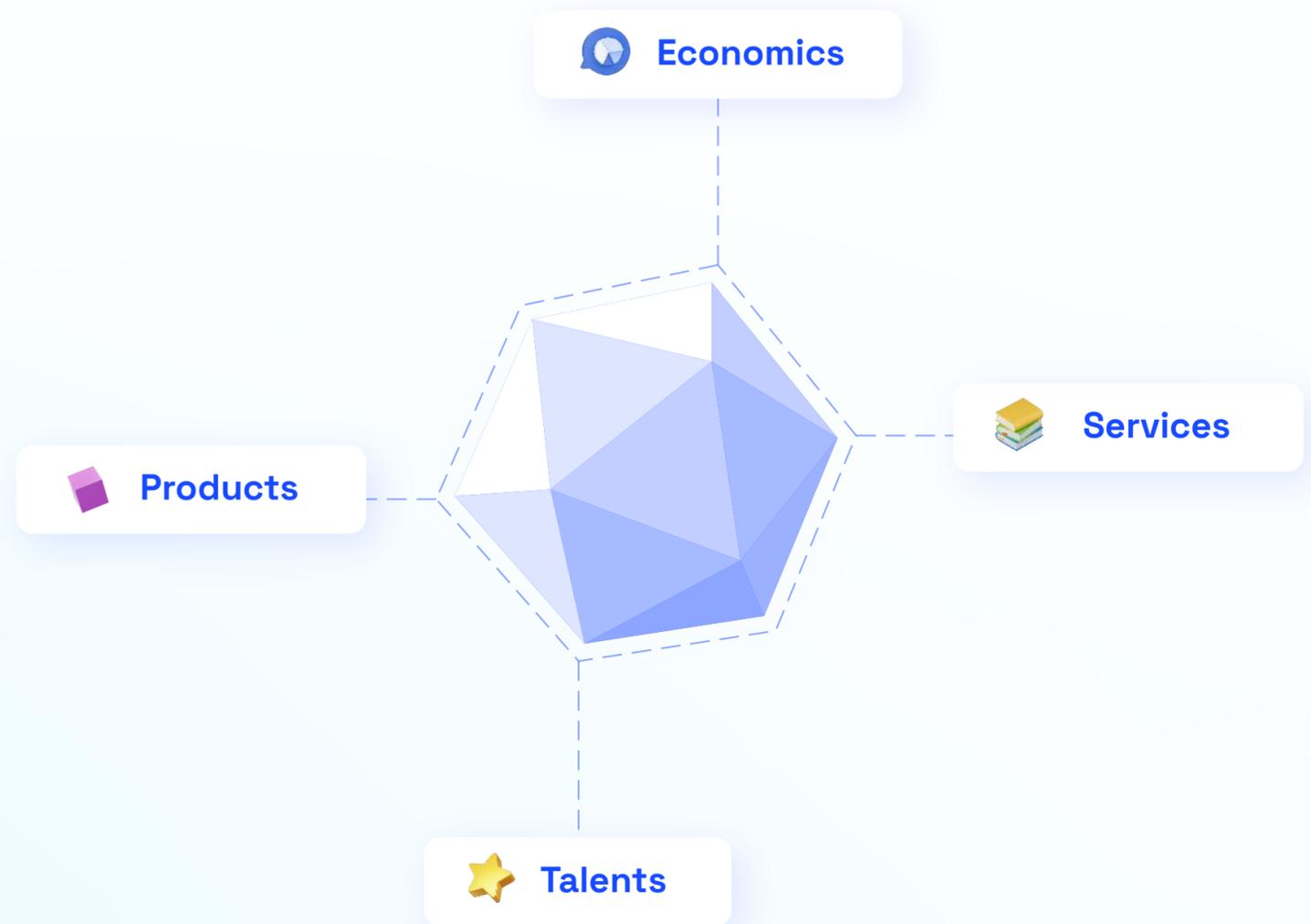
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Introduction

INTRODUCTION

With the ever-growing expansion of the use cases and application of web3, coupled with the success of frontline startups deploying innovative products and solutions, the number of users is still below par compared to what the supposed iteration of web2 internet should be. This is a pointer that the adoption of web3 technology is lagging.

We have identified some few missing parts responsible for the slow adoption of web3. Our research also points us to the reasons why there was an adoption in the first place. We will discuss these reasons and how our products and services address them and overall, what makes our blockchain the architecture for global web3 adoption.



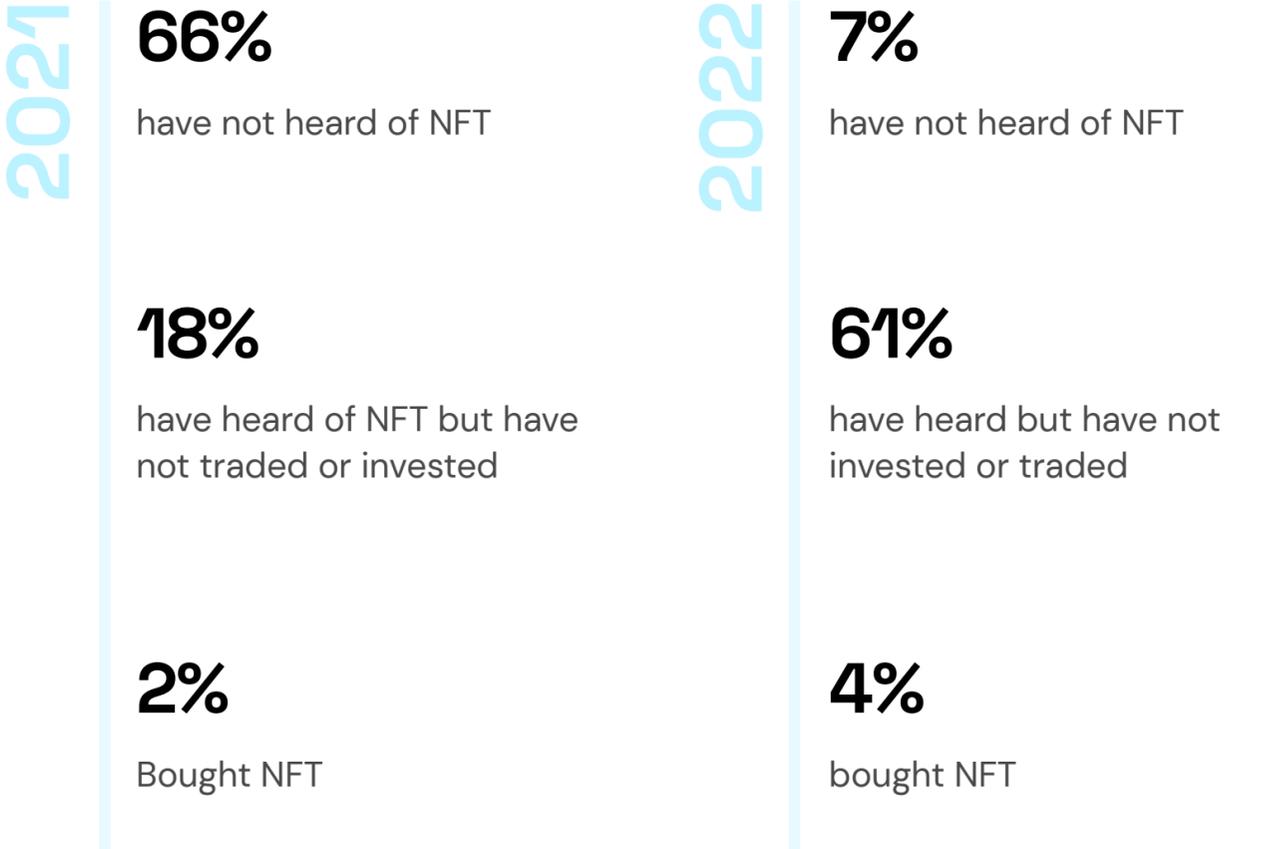
What the Adoption numbers are saying

A comparison between the 2021 and 2022 Adoption report in the US

CRYPTO



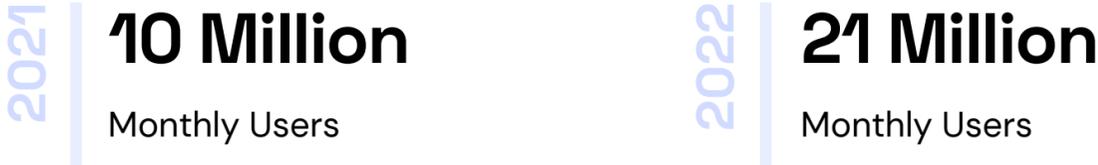
NFTs



2% NFT Adoption rate between 2021 - 2022

A comparison between the 2021 and 2022 Adoption report in the US

ADDRESSES CONNECTED TO METAMASK



11% Ethereum adoption increase between 2021 - 2022

DEFI



1.49% Defi Adoption rate between 2021 - 2022

Survey of US Adults conducted between 5 - 17 2022. Pew Research Center

Adoption rates among different age groups



Where the world's population is a total of 7.753 billion people, there are **18,000+** developers currently contributing to open source projects.

It is comparatively sad that the revolutionary technology cannot boast of a **3.75% adoption rate 8 years** after its emergence. This proves that despite the noise about most web3 products, people are not adopting it.

The Problem Statement

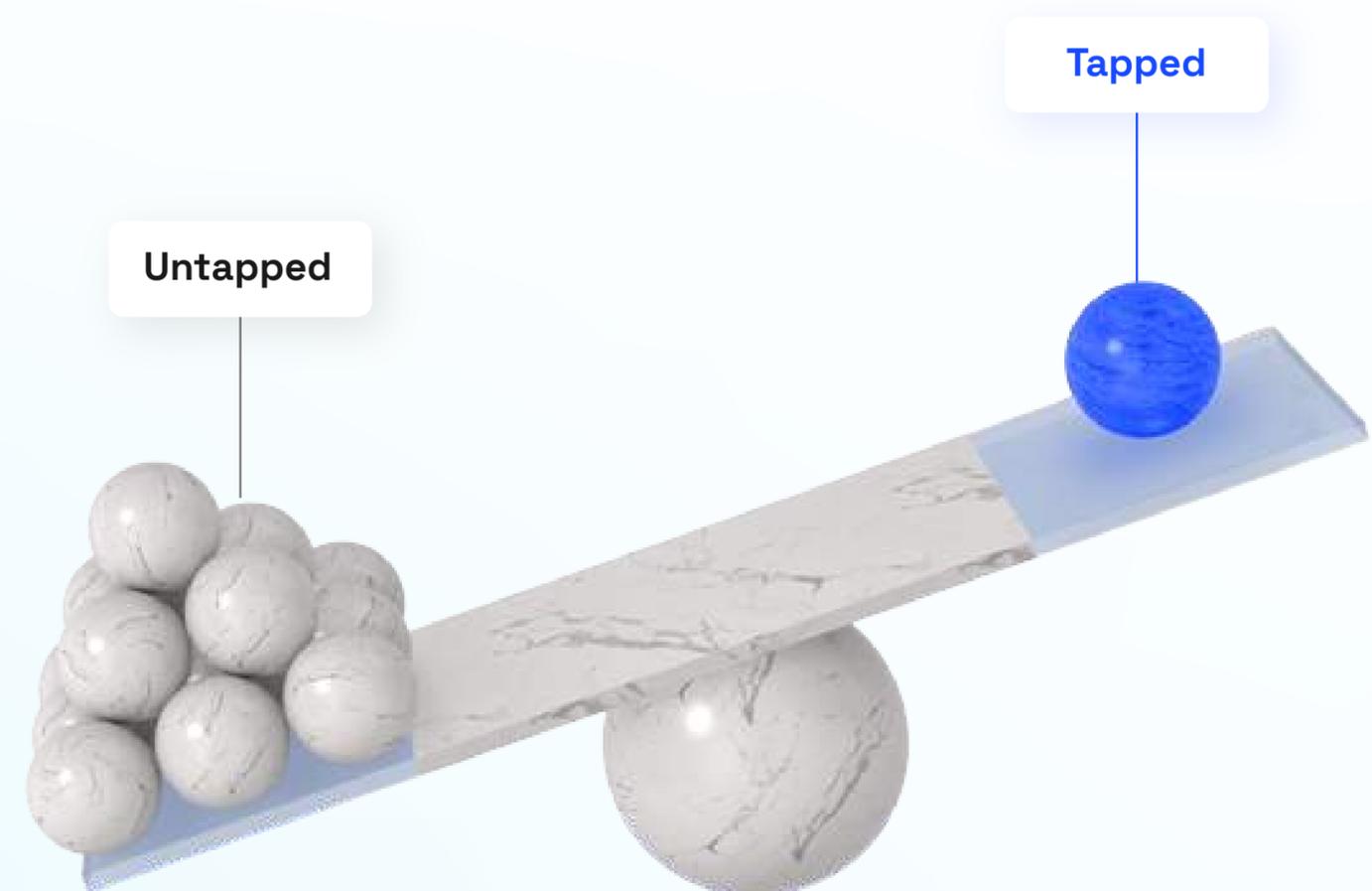
THE PROBLEM STATEMENT

The task of providing scalable products in a decentralised and permissionless space has its hurdles. While few of it can be blamed on the limitations of the technology itself, the bulk of it is a result of the fallibility of the adopters presently occupying the industry.

The present web3 adoption is transactional. It is largely a get-rich-quick platform; where the only use case the projects are providing is trading. All actors in the space are in it because of quick money and this is because there are no useful products that are applicable in the real world.

Aside from the basic components of web3 which includes decentralisation, token-based economics and other benefits, we have only tapped into 'investment' and have not had time nor resources to focus on the real use cases that can propagate genuine and organic adoption of web3.

Benefits of Web3



Case Study

We discussed and examined the possibilities of employing web3 in current web2 applications. We looked into the legality, ease of use, security and management. All examinations and reviews brought us back to the fact that there is a shortage of web3 developers. However, we will share our observations in this paper.

A ride-hailing company can decide to port the architecture of their offering to web3. This will in turn solve a lot of problems and save a lot of money that would have been spent on transaction fees. For example, in 2017 IPO filings, Uber announced they spent \$749m on payment processing fees which can sufficiently scale 749 startups in the United States. Using Web3 technology would have saved up to 99% on these fees because the fee is based on the product of gas limit and gas price, usually \$0.001 for EXX network unlike in credit card payment where the fee is based on a percentage of the amount transferred. This enormous transaction fee issue is persistent in all web2 applications that take payments such as Amazon, Netflix etc.

From our research, we concluded that it is indeed wise for these companies to adopt web3 technology due to its privacy, security, decentralisation and affordability. However, we have not made a conducive environment for this. The developers are not anywhere available, the people do not understand and cannot trust a system where an unknown person can steal hundreds of millions in USD overnight and the team can only negotiate with the hacker for the part of the money to be recovered. We are still limited in the following ways:

Insufficient Web3 talent pool

Web3 suffers from a shortage of talent. Generally, it was reported that there are only a little over eighteen thousands (18,000) developers in web3. Eighteen thousand competent developers would be nice and manageable. However, our research and experience in this space informed us that only a fragment of these eighteen thousand developers are experienced. Unfortunately, over 80% of these developers have less than 2 years of experience and the majority of them are grossly inactive. For billions of potential adopters, this talent pool is marginally insufficient.

- The majority of developers are inexperienced. They mostly copy and paste open source codes and as such, they lack proficient skills.
- The experienced ones are employed and hijacked by fortune 500 and other top companies.
- Most importantly, there have been no enticing models to groom developers for the web3 space.

Case Study

Poor Security

Web3 has brought in a new set of cyber threats that have for so long been web3 media highlights. Three major reasons are found behind these attacks and hacks. They all have to do with developers and their insufficiency. For example, bridges that were 'hacked' in recent times may be due to:

- The implementation of the application is not properly done or fully audited. For example, not auditing all contracts to save cost, not doing proper testing on the interface, database and processes of the application.
- The team hack themselves to get rich quick by deploying and upgrading new versions of contracts different from what was audited. Note that most teams only audit their first contracts and never audit the updates.
- When projects outsource developers, some malicious developers can create a backdoor access which may not necessarily be in the contracts audited.

Useful Products

The centralised internet (Web2) has been able to successfully deploy products and services that are useful and appealing to a wider audience. However, web3 products are currently useless at large.

They are usually designed with one goal in mind, to trade tokens. In contrast, if we begin to develop solutions that apply to regular user day-to-day activities, then we will be enticing more users into web3.

- 99% of DApps offer no real-world use case or advantage.
- Even as the users are focused on web3 economic values, we have not fully enjoyed the benefits of token-based economics.
- To make products people need, web3 requires skilled and dedicated developers and we work towards solving this.

Over-Technical DApps

For mainstream adoption, there is a need for basic training and sensitization of the general public of prospective users because most users cannot comprehend the variables around web3 and its architecture. From research, we deduced that most web3 users / retail investors do not understand token economics or metrics. They outrightly believe that less token supply would mean more profit for them whereas, the return on investment is determined by the market capitulation at which the tokens were bought.

Solution: EXX Ecosystem

EXX Ecosystem: A network with a robust architecture and services to accelerate global web3 adoption

It is not a question of if but a question of when. We are sure the future is decentralised and many apps would run on token-based economics; our goal is to ensure we get there faster.

EXX was born out of the dire need for an architecture and framework that eases the speedy growth of web3. By the time we build a robust web3 ecosystem that eliminates all the fallibilities, we will attain a considerable surge in web3 adoption.

Our ecosystem is made up of two components: education which involves developer grooming and infrastructure which includes the blockchain solution and the products built on it. Our focus for the ecosystem is:



EXX ECO. SOLUTION

User Experience Driven

We are laser-focused on the user experience of web3 because we understand that it is important to make this right in order for us to achieve the adoption we require. Unlike other layer 1 blockchain solutions, Exx blockchain is not on its own; It is released to accelerate web3 adoption and hence, we are providing the services and products to achieve our goals. Our products are built to be easily understood and enticing to users.

Usable Products

Web3 is at the stage where the internet was in the early 1990s, that was the period when adoption was low and many people did not think there would be any good from the internet including the tech giants. The speculations were valid because there was a terrible User Interface and Experience. However, following the Hyperlink proposal of Tim Berners Li in 1989 and the subsequent launch of the Mosaic browser, the websites hosted on the internet grew from 130 to 100,000 in the space of 3 years, a 1,000,000% (percentage) increase. Exx Network itself is powering a complete ecosystem of DeFi products and services that are applicable for day-to-day use.

ExxDev – Web3 Talent Grooming

As experienced professionals in the web3 space, we have been through a lot of situations, especially at the early stage of our research and idea formation years ago. We have been ‘victims’ of the inexperienced and under-developed developers who just saw a bubble and decided to become developers overnight. With these developers, a 2 months project will still be pending for 6 to 12 months and eventually come up with a sub-standard implementation. Our program is aimed to provide free comprehensive training for web3 talents. Exx is positioned to be the leader of the talent supply chain for web3.

Web3 Education

As earlier established, web3 is still a new concept and unknown to many. This moment is similar to the 1900s and 2000s when there are establishments purposely tailored for computer training. We need to establish something of this kind to help people understand what web3 is and how things work within it. Through a reward-based initiative, Exx is strategically building web3 ambassadors that are set to spread web3 education to every corner of the world.

ExxDev: Web3 Talent Grooming

EXXDEV

While there are adoption barriers arising from the inefficiencies of developers, there are also the perceived gatekeeping issues wrapped around getting the training, knowledge and education needed to become a web3 professional. Acquiring the development knowledge can be expensive, tiring and extremely difficult. It requires great and intentional expenses on the part of a willing learner with conditions of access to many resources – expenses on internet access which amounts to money, time and great mental energy, resources on gadgets, uninterrupted power supply, good learning environment and realistic learning hours. Great developers do not just spring up from nowhere. There is a need for mentorship and guidance along the way. Where these blockers of knowledge are unconditionally removed, the ecosystem will have a surplus of competent and experienced professionals.

With a key focus on consistently and constantly supplying the decentralised ecosystem with web3 talents, ExxDev is EXX network's frontline project that educates, trains, develops and deploys web3 professionals. ExxDev is an incubator programme that provides all resources, facilities and materials needed to groom talented individuals to become web3 professionals.

ExxDev: How it works

ExxDev will bridge the web3 talent gap by sourcing talented individuals, and training them for a thorough and intense minimum of 6 months skills acquisition period. The process will begin with an open application. The forms will be carefully sorted with responses taken into consideration and candidates perceived to be intentional will be selected to move to the next stage, which is the Aptitude Test. Following the aptitude test is a live interview stage where successful applicants will be selected to begin intensive and aggressive training for 6 months or more depending on the targets.

With our Blockchain, EXX Network, the talents have a working platform to learn, build and experiment on.

Interestingly, EXX will be in agreement and partnership with established startups mainly within our ecosystem to kickstart a deployment program where trained and certified talents will begin an explosive web3 career. The incubator will begin from Lagos, Nigeria, and continually spread all over the world, especially where we can find enough brainpower.

What ExxDev involves

Physical training hub

ExxDev will feature a fully equipped physical training centre where learners can easily work together and achieve better results in lesser time. This will give them easy access to the facilities needed such as; functioning and efficient computers, uninterrupted power supply, stable internet access, and 1:1 teaching, guidance and directions etc.

Seasoned and diverse tutors

The incubator will onboard experienced tutors from around the globe. These tutors will be carefully selected based on advice and recommendations on their backgrounds, projects worked on and their influence in the web3 developer space to teach and guide the learners.

Learn to Earn

We are not oblivious to the fact that the learning process can become uninteresting along the line. We plan to employ the carrot and the stick approach. The carrot here is the monthly stipend which will be paid to the talents as a reward for their hard work and motivation to want to continue and something to keep them focused on the task alone.

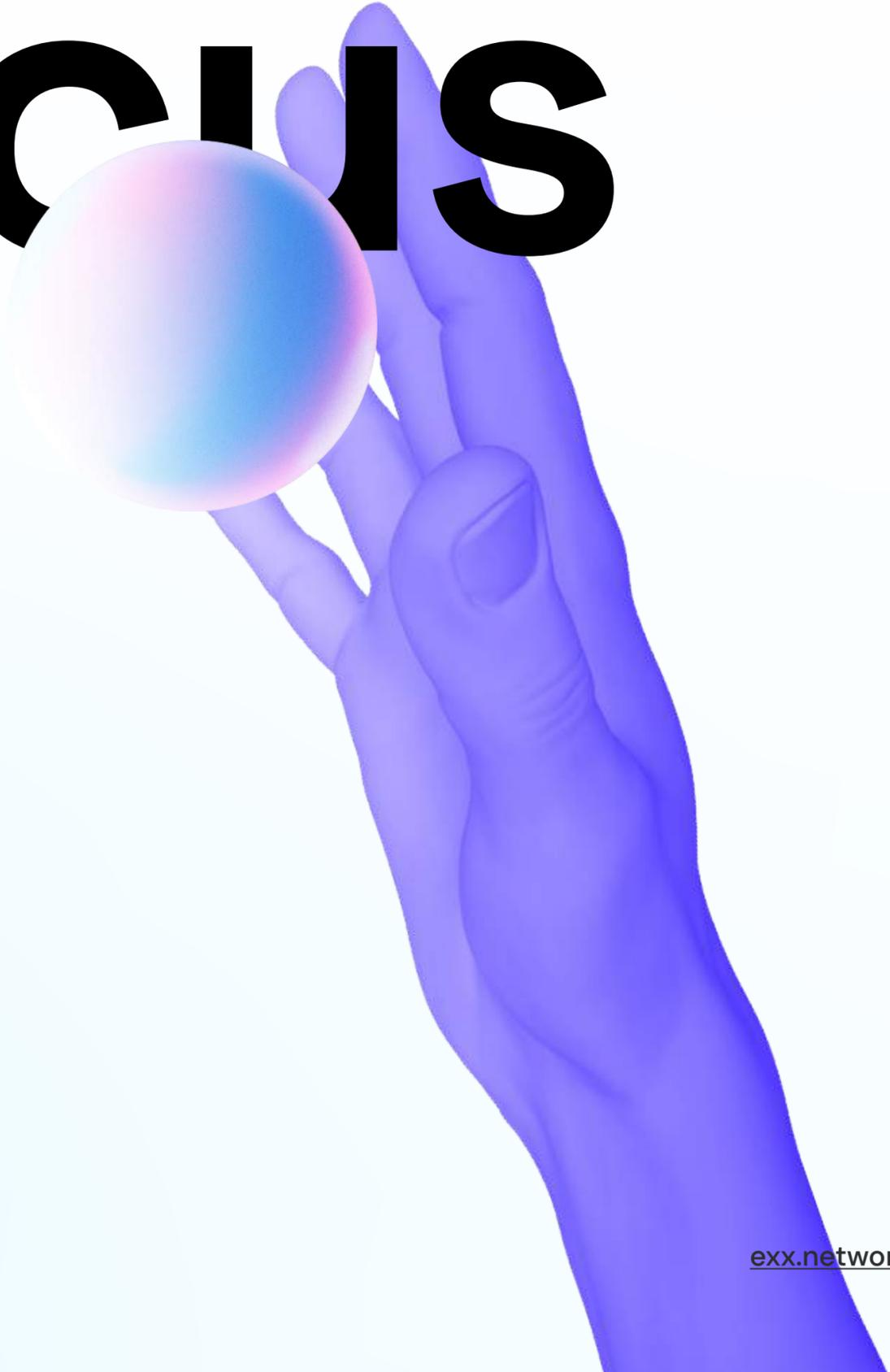
Key Performance Index

This is the stick that complements the carrot. Web3 development requires a high level of concentration and performance in order to build and deliver networks and DApps that work for the betterment of the ecosystem. We will put in place industry standard KPIs to monitor the progress of every talent. Talent will be asked to continue, withdraw, or advised to do better depending on their individual KPIs.

Deployment for work opportunities

It is not enough that we train and develop them, we need to see them through gainful employment opportunities that will let them contribute their quota to the development of the web3 ecosystem within and outside Exx Network. We will work with established firms and companies for the supply of these skilled talents as well as for outsourcing purposes.

Skill focus



The incubator will focus on all the most sought after web3 professions needed to build an infrastructure that will expedite adoption and establish a competitive web3 ecosystem for global adoption; ExxDev will train:

- Blockchain Developers
- Blockchain Architects
- UI/UX Product Designers
- Full Stack Developers
- Game Developers
- Mobile App Developers

ExxDev looks to bridge the web3 talent gap by providing the actors on which the ecosystem relies to expedite adoption.

EXX Ambassadors: Web3 to every corner

EXX AMBASSADORS

During our preliminary research, we deduced that getting into web3 for a beginner requires extra educational efforts. Compared to Web2, the bare terminologies are too technical and not easily understood. Communicating its dynamics, model, and differences poses a great challenge in the industry. These technical terms will naturally discourage an average adopter who is looking for easier means to transact or use a basic service App.

The solution here lies in Education. Several intentional efforts have been made so far by mainstream companies and firms to educate more users. These efforts are not enough as they are not strategic enough to drive turnover. EXX events is another of the network's initiatives to run web3 education across the world, even to the farther and deepest corners of the world.

Through intentional and comprehensive training programs, EXX will be training ambassadors from different locations across the globe on blockchain education and enlightenment. These are targeted ambassadors selected based on their location and settlements. They will be made to create blockchain communities, and speaking clubs and also organise mini and major blockchain education events in their local settlements. They will be rewarded based on an already-designed reward system.

Key Aims

- Blockchain education to every corner of the world.
- Expediting adoption among the locals.
- Expanding ecosystem job opportunities for Ambassadors
- Promoting and marketing the EXX Network ecosystem.

Who can be Ambassadors?

- Web3 professionals
- Graduates and Undergraduates
- EXX ecosystem team
- Newbies and Novice looking to enter the web3 ecosystem

Design Philosophy

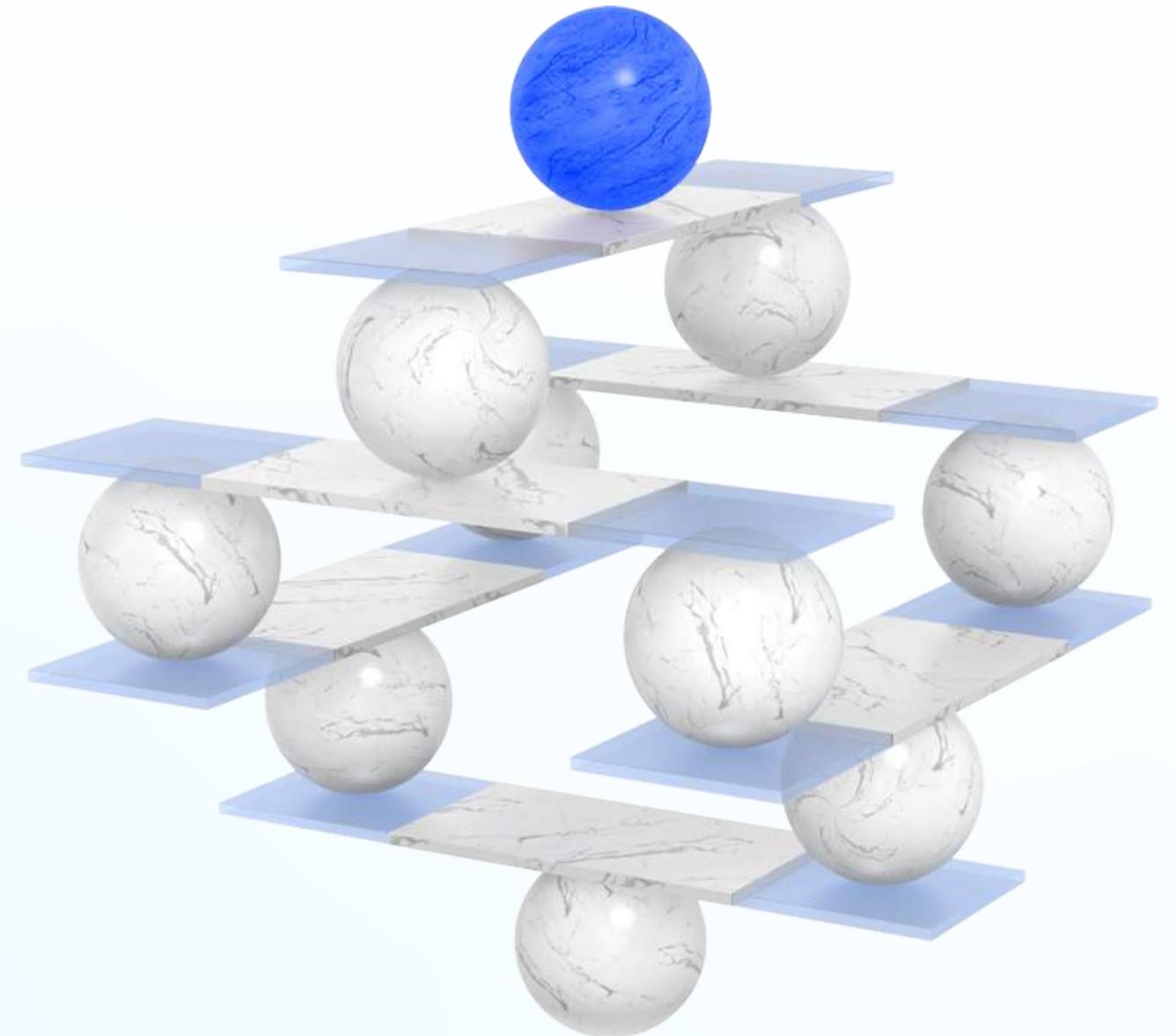


DESIGN PHILOSOPHY

With the network's focus on accelerating mass adoption of web3, the Exx network is a layer 1 blockchain for developing user-focused DApps and solutions to accelerate adoption.

Ethereum being the premier web3 platform is the network of choice for deploying DApps and contracts. However, the network consists of many limitations. Exx Network is proposed as the solution that gives builders and developers the flexible framework to explore virtual machines to power the world's most proficient ecosystem for adoption purposes.

Exx Network comprises the most in-demand web3 functions for the development of a community-centric and open-source ecosystem. As a result, these are what make up the Exx design philosophy:



Consensus Mechanism

Exx Network uses the strategy of Proof of Staked Authority to achieve consensus on transactions. Proof of Staked Authority provides a defence to 51% attack, with better effectiveness and tolerance to specific levels of Byzantine players (malicious and hacked).

The consensus protocol goals are as follows:

- It allows modern proof-of-stake blockchain network governance.
- It is compatible with the Ethereum network as much as possible.
- There is no inflation of native tokens.
- Block time will be shorter than the Ethereum network, e.g. 0-4 seconds or shorter
- Limited time to confirm the finality of transactions

Validators and Validator Mechanism

EXX is the native token used to stake on EXX Network.

In the genesis stage, a few trusted nodes will run as the initial Validator Set. After the blocking starts, anyone can compete to join as candidates to elect as a validator. The staking status decides the top 21 most staked nodes to be the next validator set, and such an election will repeat every 24 hours.

EXX network validators and validator mechanism goal follows:

- Blocks are produced by a limited set of validators (21 in total)
- Validators take turns to produce blocks in a PoS manner
- Validator sets are elected in and out based on a staking-based governance

Validators and Delegators

A validator is someone or in this case, a system who is responsible for verifying transactions by committing new blocks in the blockchain. They participate in the consensus protocol by signing blocks collectively using each of their private keys. The validator set is determined by the Validator Staking Module (VSM) built on top of the blockchain.

A delegator is someone who has contributed their EXX tokens to a validator's pool of tokens to increase his validator strength and reward.

Reward

A validator's reward comes from transaction fees from blocks signed and commission fees taken from delegators.

Given that the reward for a certain validator (with 30% self-bonded EXX) in a block is 10 EXX and there is a 10% commission fee for its delegators. The reward is shared among the validator and delegators according to each of their stake in the following manner:

Commission

Amount of fees paid by the delegators to the validators

```
// Pool total - Self-bonded (validator)
100 - 30%
Delegator share = 70%
```

```
70% * 10 = 7
```

```
// With 10% Commission fee,
```

```
7 * 10% = 0.7 EXX
```

```
// Commission of 7 EXX is collected from delegators
and given to the validator.
```

Validator Reward

Amount in EXX received by the validator.

```
// Total reward * validator percent + commission
```

```
10 * 30% + 0.7 = 3.7 EXX // Validator gets 3.7 EXX.
```

Delegator Reward

Amount in EXX shared among the delegators.

```
// Total reward * delegator percent - commission
```

```
10 * 70% - 0.7 = 6.3 EXX
```

```
//Validator gets 6.3 EXX.
```

Validator Risk

There are some punishments designed for validators who try to cheat the system or act contrary to the specifications of the validator requirements which includes going offline.

A validator risks losing his staked tokens to the system through a process called slashing if any fault is found.

Burning Mechanism

Burning of tokens are useful for sustainability and to ensure deflation which in turn promotes scarcity of tokens. We are implementing two clear means of burning EXX tokens:

1. Manual burning from a growing vault.
2. Automated burning from transaction fees.

The manual burning occurs periodically once at a time that we set and announce. The fees collected on every transaction are distributed as follows:

1. 90% to validators and block producers
2. 10% to be burned

Native Token

EXX is the native token and will run on the EXX Network. The EXX Token will also be used to:

- Pay transaction fees to deploy smart contracts on the network
- Stake on selected EXX validators, and get rewards
- Perform cross-chain operations, such as transfer token assets on EXX and other networks

Features

EVM Compatibility

Ethereum remains the premier network with which decentralised Dapps, products, and solutions are developed. EXX is compatible with Ethereum to give room for flexible options for developers and users and support cross-chain and multi-chain multichain communication. It uses Industry dominant tech stack and language used by most developers.

Scalability

Compared to Proof-of-work systems, the Proof Of Staked Authority consensus algorithm enables better network performance; faster blocking time, and higher transaction capacity. With a very limited number of validator sets, it is an algorithm with an advanced scalability solution.

Security

EXX is a non-compromising blockchain architectural algorithm for reliable transactions backed by validators. The network employs the slashing technique which will expose malicious validators either for attacks, double signing, or unavailability. This makes attacks difficult.

Sovereignty

EXX network is a self-governing network with dedicated throughput and a fully customizable tech stack.

Interoperability

EXX is designed to give the freedom of mobility to both users and developers while sustaining the security that is expected from the network. The network support for arbitrary message conveying (token, contract calls, transactions, etc) spanning to external systems.

User Experience

EXX network helps to provide more than just a working product. Comparable to the best of web2, it facilitates low-cost transactions, quick and seamless transaction finalisation, cool pages, and easy-to-navigate interfaces.

DESIGN PHILOSOPHY

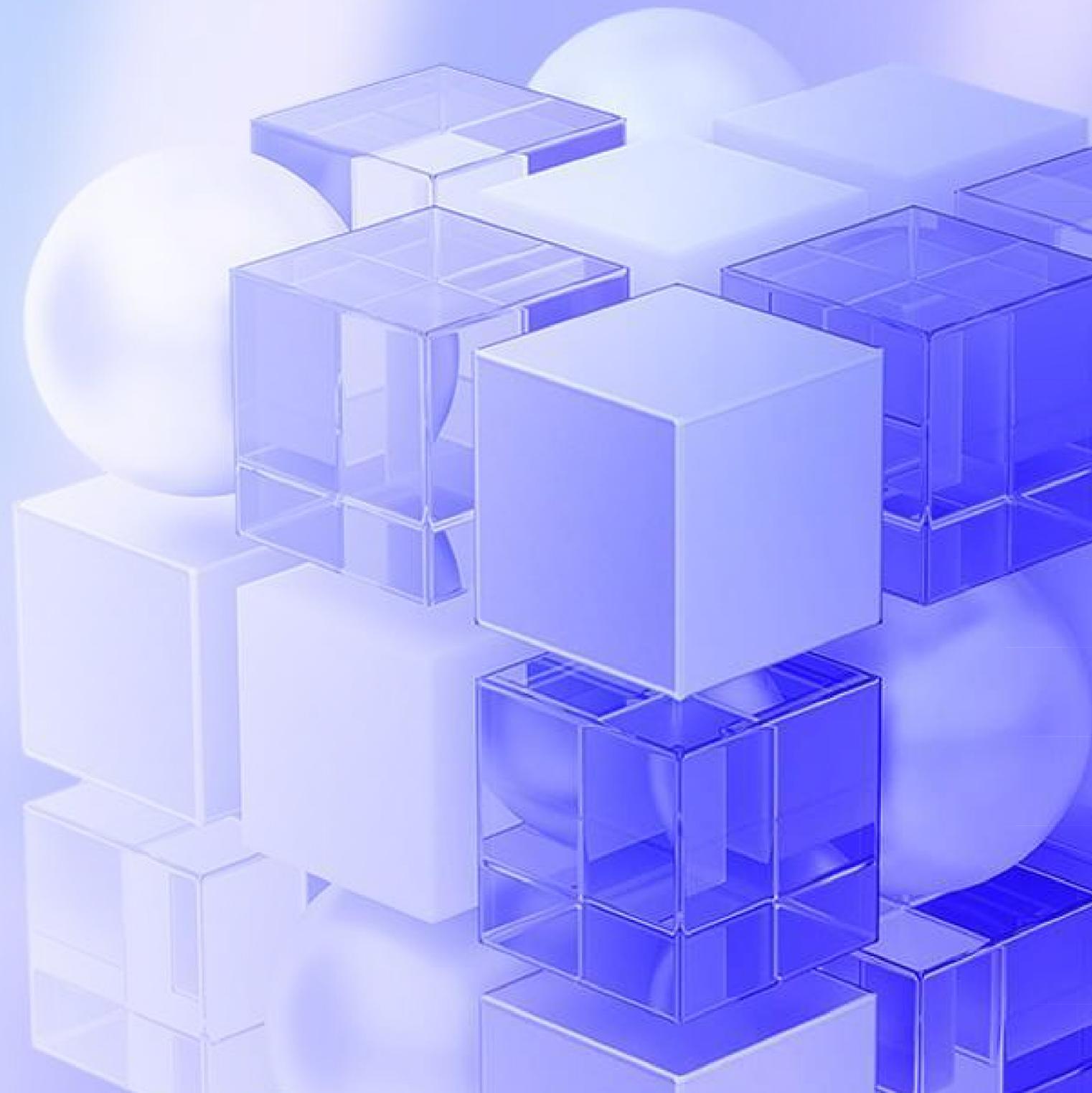
Developer Experience

Developing and deploying doesn't have to be a boring and painstaking adventure with many demands. EXX spices things up for devs; an alternative to Ethereum, with no protocol-level knowledge required, no token deposits, fees, or permissions and a developer grooming program.

Modularity

Blockchain technology provides and supports the modularity of code. This approach is useful to have a more refined and simpler code. It provides developers with high customizability, extensibility, and upgradability, short time to market and improves collaboration.

Architecture



Testnet

The Exx Testnet is designed as a proof of concept for testing the network for security, scalability and against vulnerability.

Ecosystem Actors

- End Users: Everyone testing through buy, sell and transfer transactions.
- Developers: People skilled and those trying out DApp and smart contract development using EXX testnet.

Testnet Functions

End users can:

- Send and receive EXX
- Issue new tokens to digitise assets, and use EXX Network as the underlying exchange/transfer network for the assets
- Send, receive, burn/mint, and freeze/unfreeze tokens
- Explore the transaction history and blocks on the chain via Exxscan, API, and node RPC interfaces.

Developers can:

- Issue new tokens to digitise assets
- Migrate existing DApps
- Run a full node to listen to and broadcast live updates on transactions, blocks, and consensus activities
- Develop wallets and tools to help users use DApps
- Explore the transaction history and blocks on the chain, via EXX Explorer, API, and node RPC interfaces.
- Extract other data of EXX network via full node or APIs
- Develop tools and applications to help users use EXX Blockchain

Limitations on Testnet

- You can't become validators on Testnet at the moment.
- You can't delegate tokens to a validator.
- There is no official staking infrastructure on testnet at the moment.

Mainnet

The network architecture is designed to power optimum user experience and usability by eliminating the lags of Ethereum which include; longer waiting periods for block confirmation, exorbitant confirmation block fees as well as block competition for faster confirmation which results in a competitive gas fee.

Ecosystem Actors

- End users: Everyone who uses the system, especially those who only perform basic transactions.
- DApp developers: Developers will use the Exx Network to develop and scale their applications and provide usable services with a better user experience for users.
- Block producers: These are responsible for making new blocks. They enable faster blockchain generation times. They have to provide a tangible stake to be nominated.
- Validators: Stakers need to deposit/stake tokens to validate transactions and also select block producers.

Exx Functions

EXX boasts of smart contract functionality and compatibility with the Ethereum Virtual Machine (EVM). This means that it has full support for Ethereum tools and DApps. Developers can easily port their projects from Ethereum to EXX. Users can also configure Apps like Metamask to work with EXX.

You can also:

- Send and receive EXX
- Issue new tokens to digitise assets, and use EXX Network as the underlying exchange/transfer network for the assets
- Send, receive, burn/mint, and freeze/unfreeze tokens
- Explore the transaction history and blocks on the chain via Exxscan, API, and node RPC interfaces.
- Stake your EXX to earn some block rewards

ARCHITECTURE

Developers can:

- Issue new tokens to digitise assets
- Migrate existing DApps
 - Run a full node to listen to and broadcast live updates on transactions, blocks, and consensus activities
- Become a validator of EXX
 - Develop wallets and tools to help users use DApps
- Explore the transaction history and blocks on the chain, via EXX Explorer, API, and node RPC interfaces.
 - Extract other data of EXX network via full node or APIs
 - Develop tools and applications to help users use EXX Blockchain.

Usability Layout

The blueprint for enabling quick and easy mainstream adoption of the EXX network blockchain infrastructure. We have already started working on many of these as we consider them important. We cannot wait for third party teams to implement them because of the delay. These things are:

Decentralised Exchanges

A fully integrated and functional infrastructure for digital assets exchange on EXX network enabling other related suites of offerings.

Token Price Chart

An infrastructure for tracking and viewing price movement of all tokens tradeable and with a liquidity pair on EXX network.

Institutional Validators

At launch of EXX mainnet and implementation of our refined consensus mechanism, we plan to have integrated credible organisations and institutions to serve as block producers and validators on the EXX network.

Institutional Investors

While our business model is rock solid and mode of operation powers constant flow of liquidity into the project, we require a substantial amount of investment to facilitate the project and enable flagging off our services.

ARCHITECTURE

Assets Mapping

Some important assets and XRC20 tokens are important to have on-chain for a fully functional blockchain. We have implemented BUSD, USDT and some other important tokens on the test network. The same way, we need to map USDT, BUSD, USDC from Ethereum or BSC networks.

DApps Deployment

There is a need for consistent and productive DApp development in the EXX ecosystem for usability and increase in the adoption of our blockchain and services.

EXX Integration on DApps

EXX is an EVM blockchain and hence it can be supported by every product or application that supports Ethereum, Binance Smart Chain, Polygon, Aurora etc.

Future Plans

Scalability

Improving on our blockchain architecture for expansion and supporting the infrastructure to handle heavy usage and processes. We look to be able to function effectively as a blockchain.

Decentralisation

While ensuring scalability, we are careful not to compromise on decentralisation and security of the system. One of our core plans in the future is to improve on decentralisation of the network.

Efficient Storage

As the network expands through widespread adoption, there will be a need to create a more sustainable and efficient data storage for nodes running on the blockchain because all nodes will be expanding as well.

About Us

Who We Are

EXX Network is the next-generation blockchain initiative built to facilitate the infrastructure needed to drive the adoption of web3 technology for the powering of an efficiently decentralized world.

The snail rate of web3 usage in the world is a call for global concern. With the realisation that this slow adoption rate can potentially hinder the fulfilment of the decentralized internet promises, a team of web3 professionals came together to suggest and implement ideas, strategies and solutions that could get more users in the space in a shorter time.

To launch operations, the team temporarily relocated from their different places of residence across the globe, and came together to work onsite for many months till the products and solutions are fully built, deployed, launched and ready for public use.

The Team

A formidable team of diverse and experienced web3 professionals working round the clock to deploy the web3 aptitude needed to build the decentralised future.



Exxample Inc. 2022

Connect with EXX



WEBSITE

www.exx.network



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