

# WHITEPAPER

**A NEW STANDARD FOR  
BLOCKCHAIN USER EXPERIENCE**



# TABLE OF CONTENTS

Disclosure.....	4
Abstract.....	5

## 1. Challenges

1.1 Low real-world usage of cryptocurrencies.....	7
1.2 Current DApps hosting platforms limitations lead to usage of centralized storage.....	8
1.3 Smart Contract and DApps developers lack viable market to propose ready to use products while Business interest grows.....	8-9
1.4 Network security and scalability.....	9

## 2. PIRL Approach

2.1 Development with engagement – From the people to the people.....	11
2.2 Meet adoption by providing easy to use decentralized applications.....	11
2.3 DApps and the benefits of hosting and using them on PIRL.....	12
2.4 Scalability and network security.....	13

## 3. The Technology behind PIRL

3.1 Masternodes Network.....	16-18
3.2 IPFS – Immutable Hypermedia Protocol.....	20-21
3.3 Smart Contracts.....	22-23
3.4 EVM.....	24
3.5 Web3.js - Ethereum JavaScript API.....	24-25

# TABLE OF CONTENTS

## 4. PIRL Features

4.1 The Marketplace.....	27-28
4.2 PirlApp.....	29
4.3 Project Incubator Program.....	30
4.4 PirlPay.....	31-34
4.5 EZminer.....	34-35
4.6 Poseidon.....	36
Roadmap.....	37-42

## 5. How to earn PIRL

5.1 Mining.....	44-45
5.2 Operating a Masternode on PIRL network.....	46

## 6. Coin specification

6.1 Monetary Policy and block rewards distribution.....	48-49
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## 7. Governance and Finance

7.1 Governance and Finance.....	51
---------------------------------	----

Conclusion.....	52
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Resources.....	53
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# DISCLOSURE

PIRL is not a stock or a product and does not represent shares of a profit sharing company. PIRL did not operate an ICO or Pre-sale and does not have a pre-mine. The PIRL monetary unit represents technology platform native currency used within the platform as a payment for features, trading of goods and services and rewarding of network supporting individuals through block reward distribution.

This document does not represent a sell offer of PIRL or PIRL based activities. All trading of PIRL are subjected to exchanges who offer PIRL trading pairs, and between individuals who can trade PIRL balances between each other on the blockchain.

This document represents PIRL teams vision for solving certain challenges in the blockchain ecosystem and details the team approach to them with utilization and development of innovative technologies and features.

PIRL has made every attempt to ensure the accuracy and reliability of the information provided in this document. However, the information is provided „as is“ without warranty of any kind. PIRL does not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information contained in this document.

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# ABSTRACT

PIRL is a blockchain implementation that strives to improve the accessibility of cryptocurrency and its related technologies; spurring an evolution of the crypto space through research, innovation, and dedication.

The leading problem facing digital currencies is that people lack the technical knowledge to take advantage of them. PIRL's goals are centered around the idea of the Poseidon platform, a place which simplifies the process, and creates a more intuitive experience for everyone.

In order to achieve this, and prepare for mass adoption, PIRL will take the existing framework of the Ethereum network, and further enhance its capabilities, scalability, and stability. A multi-tiered masternode network will lay the foundation for this process, bringing the concepts of decentralized currency, applications, and governance to a higher echelon.



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# CHALLENGES

# 1. CHALLENGES

## 1.1 Low real-world usage of cryptocurrencies

Cryptocurrencies and blockchain technology have only just recently emerged, but have gained immense popularity. Nearly everyone, including those in every financial/industrial sector have heard about blockchain or cryptocurrencies. In a few parts of the world, some cryptocurrencies are even accepted as legal tender and as an official payment method. However, popularity is not the only attribute required to turn the dreams of the marriage of money and technology into something real. It will also take a comprehensive plan, significant investment, and a dedicated approach to achieve it.

There are two serious problems that need to be evaluated:

1. Low real-world usage of cryptocurrencies
2. An ecosystem that requires users to have above average tech knowledge to operate.

While the technology is highly valued and recognized by millions of people worldwide, it is still at a very early phase of development and adoption. However, because of interest in the tech, and usage growing exponentially, we can expect a greater adoption rate of the technology. It is therefore reasonable to conclude that an increase in the pace of adaptation of the tech will not occur until the user experience is both compatible and simple to use for all people - including those with limited technical knowledge.

There is still a lack of advanced decentralized applications to cover everyday user needs. The current platforms that host DApps can become too expensive to use while jeopardizing the

true meaning of decentralized application. These challenges could deprive us from the initial goals.

## **1.2 Current DApps hosting platforms limitations lead to usage of centralized storage**

The DApps (Decentralized Applications) are a serious tool in the crypto environment. They promise unstoppable functionality, immutable content, are designed to be operated without a middleman and can be protected from vulnerabilities like DDoS and single point attacks. These proposed concepts are now taking place throughout the entire crypto sphere as part of IoT and other ideas that will change our lives.

However, there are certain limitations with DApps which will be resolved with the PIRL network. The current DApps platforms allow you to create your DApp data interactions and functions with a smart contract, which performs different tasks (commands) within the blockchain, but does not offer the internal infrastructure for hosting the actual dapp data in decentralized matter. For instance file storage on the blockchain to hold DApps graphics.

The use of centralized storage servers results in a “not completely decentralized structure”, which should be the main focus of every secure and and technologically advanced network.

## **1.3 Smart Contract and DApps developers lack viable market to propose ready to use products while Business interest grows.**

Smart contracts are changing the ways business operates. With the current pace of technological advancement, smart contracts are being developed daily to solve various business challenges, and for other functions.

Meanwhile, blockchains and smart contracts are becoming more and more popular and interesting, not only to well-established developers, but also to beginners. As the needs of businesses evolve, the developers are turning to this innovative and interesting technology — but where do they intersect?

Some businesses need simple and functional smart contracts to run basic functions within the company, but there is currently no viable market for them to meet and interact.

## **1.4 Network security and scalability**

One common concern about Ethereum is the issue of scalability. Like Bitcoin, Ethereum suffers from the flaw that every transaction needs to be processed by every node in the network. With Bitcoin, the size of the current blockchain rests at about 200 GB ~, growing by about 1 MB per hour. If the Bitcoin network would be used to process Visa's 2000 transactions per second, it would grow by 1 MB per three seconds (1 GB per hour, 8 TB per year). Ethereum is likely to suffer a similar growth pattern, worsened by the fact that there will be many applications on top of the Ethereum blockchain instead of just a currency as is the case with Bitcoin. But ameliorated by the fact that Ethereum is full nodes, it just needs to store the state instead of the entire blockchain history.

The problem with such a large blockchain size is the centralization risk. If the blockchain size increases to, let's say 100 TB, then the likely scenario would be that only a very small number of large businesses would and could run full nodes, with all regular users using light SPV nodes. In such a situation, this arises the potential concern that the full nodes could band together and all agree to cheat in some profitable fashion (eg. change the block reward, give themselves BTC).



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**PIRL APPROACH**

# 2. PIRL APPROACH

## 2.1 Development with engagement - From the people to the people

In addition to our own unique approach on the advancement of the technology, one of PIRLs main goals is to deliver features that allow simple use and wider adoption built for the average user.

During this development phase, PIRL is building a strong, engaged community which supports suggestions, criticism, collaboration, and endorsement to help us find the best approach on achieving a user friendly environment. Everyone in the ecosystem is allowed to suggest, develop, volunteer, and criticize as a way to shape our product to best serve the PIRL society.

## 2.2 Meet adoption by providing easy to use decentralized applications

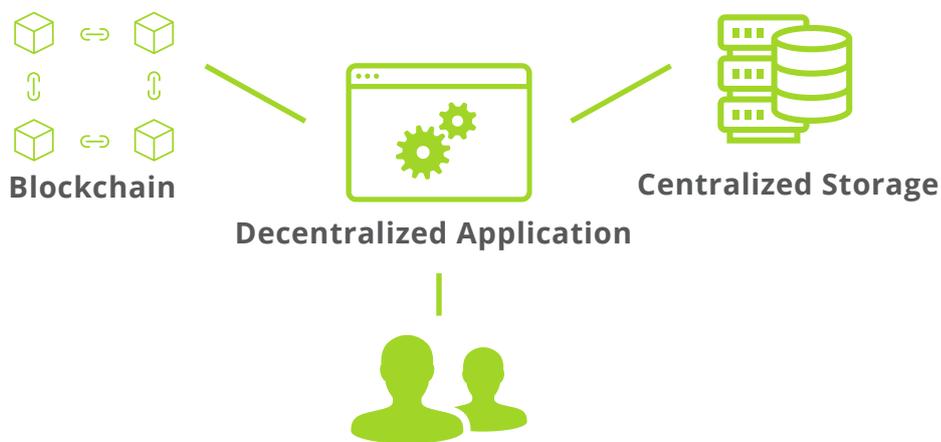
Decentralized applications, also referred as DApps, are applications (like those that billions of users interact with every day), but that holds some key improvements over the standard applications due to their decentralized structure. DApps increase privacy, improves stability and are not threatened by censorship.

PIRL will develop and host a variety of DApps that are easy to use, provide all the benefits of the technology and are widely available for entertainment, trading, communication and storage.

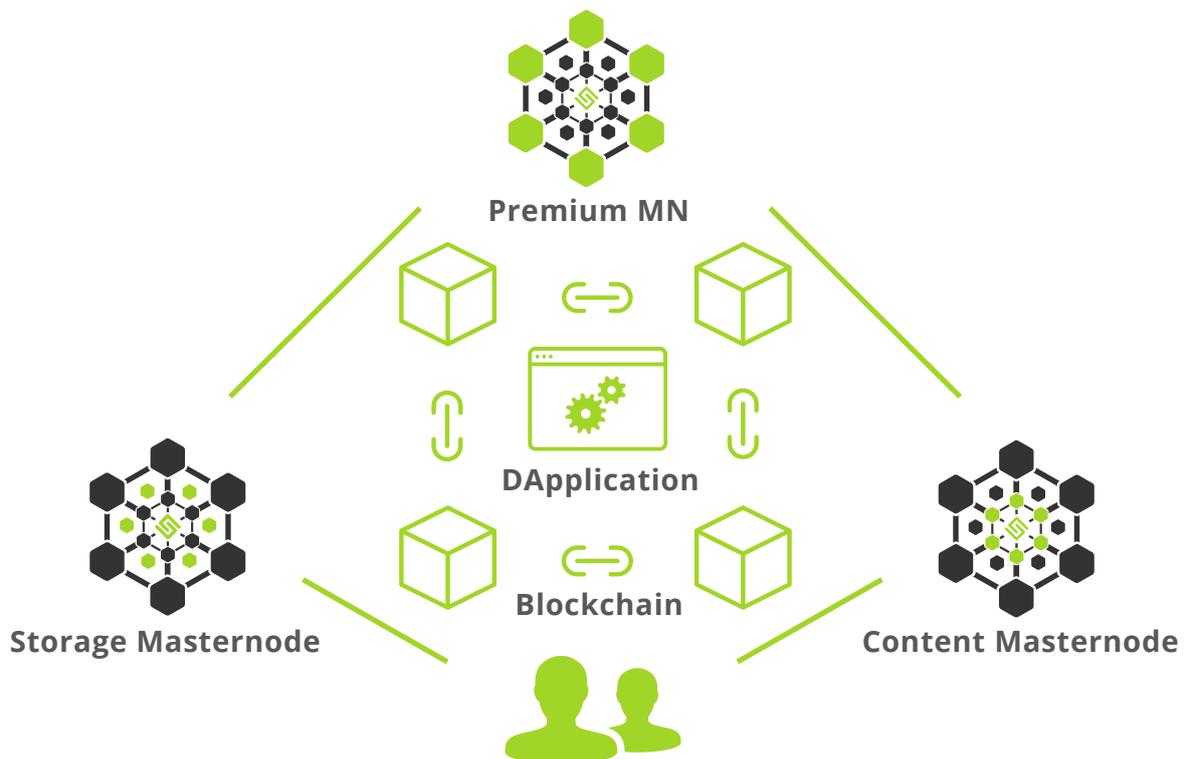
## 2.3 DApps and the benefits of hosting and using them on PIRL

Dapp abbreviate as Decentralized Application is used to Developed Applications using Front-end (HTML+CSS+JS) Web page + Back-end (Solidity Smart contract) Programming code + Server (PIRL Blockchain + 3 layer masternode network for decentralized storage and content)

### Current dApps Platforms



### PIRL dApps Platform



Traditional web applications have a frontend and a backend. The frontend is all that the users sees when entering a webpage. All of the HTML, CSS and JS are used to display the frontend and are used to connect to the backend.

The backend is where all the mechanics are implemented for the website, for example a database connection and serving the client information about their profile. Java, Python or Node.js are used on the back-end, combined with a SQL database.

DApps are similar to web apps, they may have the frontend (GUI in general), but what differentiates them from Web Apps is the backend. Instead of the Java API and a traditional database, we have a smart contract, which connects to the blockchain and contains all of the logic for the application, while storage and content can reside on PIRLs unique three layer masternode networks for complete decentralization. That means the contracts data, functions, content storage and delivery, and possibly the actual front end itself, could be all put inside a medium that is tamper proof, and decentralized.

As opposed to traditional, centralized applications, where the backend code runs on centralized servers, DApps have their backend code running on a blockchain network. Each operation needs to meet the consensus of the network and is computed on every node of the network. So, decentralized applications consist of the whole package, from backend to frontend. The smart contract is only the backend part of the DApp.

PIRL has developed the first real dapps platform. Other attempts at a platform for dApps have been very limited as the only data that can be processed in the blockchain is limited to simple text - this leads to usage of centralized storage for dapps data. By utilizing a network of IPFS masternodes, PIRL will offer the possibility for hosting completely decentralized apps without centralized storage and while having the entire infrastructure on its network.

## **2.4 Scalability and network security**

With the creation of the Masternode network backed up blockchain solutions, PIRL aims to minimize the scalability issues by rewarding masternode holders with share of the block reward and/or payments for masternode functions such as used storage space and bandwidth.

The disincentive to host a full node due to scalability issues will be easily overcome as the node holders will be reimbursed for the hardware they provide for the network.

The growth rate of the network and the scaling of the blockchain data and dapps data PIRL will be able to adapt and implement viable solutions "on the go" to sustain a healthy network



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# THE TECHNOLOGY BEHIND PIRL

# 3. THE TECHNOLOGY BEHIND PIRL

PROJECT	EVM	SOLIDITY	MASTERNODES	PRIVATE IPFS	WEB3
PIRL	✓	✓	✓	✓	✓
Ethereum	✓	✓	✗	✗	✓
Ethereum Classic	✓	✓	✗	✗	✓
UBIQ	✓	✓	✗	✗	✓
EXPANSE	✓	✓	✗	✗	✓

PIRL inherited the technology of Ethereum and develops its own innovative solutions.

The solutions introduced with PIRL are aiming improvements for DApps hosting infrastructure, but not only. Overall functionality and usability of the platform is a ultimate goal of the ecosystem. Decentralized storage solutions and immutable content hosting along with enhanced network security are just the beginning of setting up the environment for future development.

# PIRL TECH IMPLEMENTATIONS

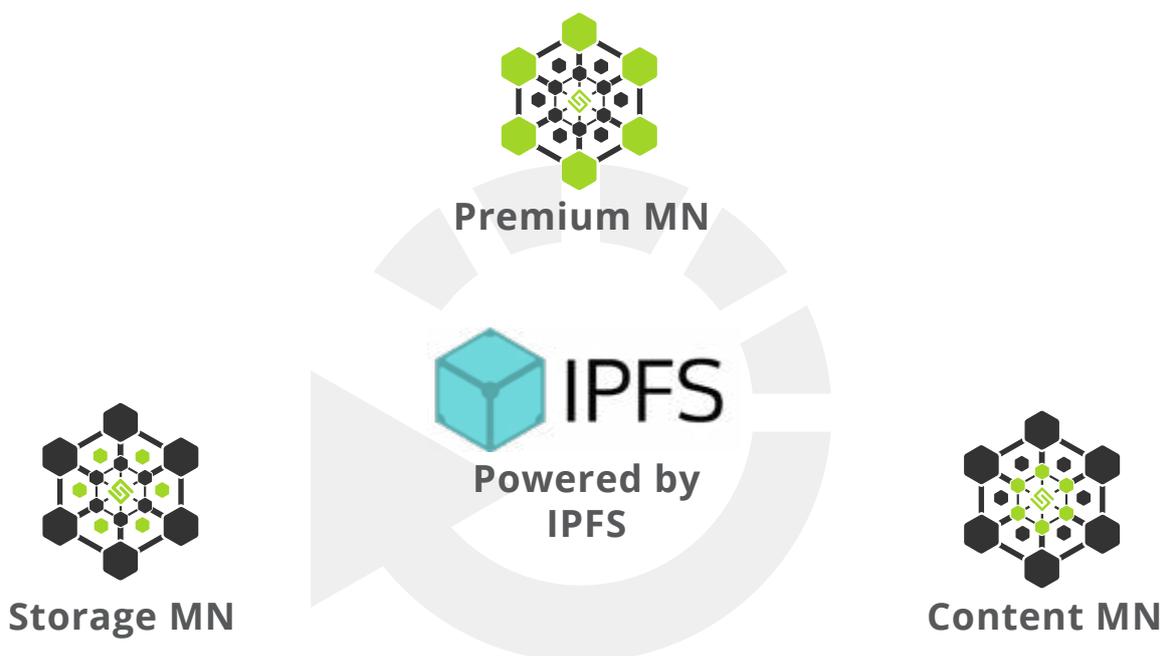
## 3.1 Masternodes Network

Identical copies of blockchain distributed, decentralized ledger are maintained across the network by end-users. These copies of the blockchain are called nodes, and they're important because they provide the backbone of the blockchain network relaying blocks and verifying transactions - securing the network, but masternodes go one step further by performing specialized, crucial functions.

The honesty of the masternode operators is secured by the requirement of locking a collateral amount.

PIRL introduces a 3 layer Masternode network with different specifically targeted functions within the network:

## MASTERNODE NETWORK



## 3.1 Masternodes Network

### Premium Masternodes



20,000 PIRL Collateral  
A dedicated or VPS Linux server  
Static public IP Address  
Run the main node, content node,  
and storage node binaries.

Premium Masternodes are the top-tier masternodes in the ecosystem. They provide network security by storing the blockchain data and relaying transaction in the blockchain as well as serving as content and storage masternodes.

The premium masternodes will be additionally rewarded with % of the fees of Poseidon platform.

### Storage Masternodes



10,000 PIRL Collateral  
A dedicated or VPS Linux server  
Static public IP Address  
Run the storage node binary

The Storage Masternodes will provide digital downloads for the marketplace, and will be used as a backup file server. Further they will be able to privately store data for dApps hosted on the PIRL platform.

## Why PIRL needs Storage Masternodes and what is their importance?



Centralized servers are mutable and vulnerable to single point attacks. With the storage masternode network this data will also be decentralized which will allow us to run the first real completely Decentralized Apps.

## Content Masternodes



- 10,000 PIRL Collateral
- A dedicated or VPS Linux server
- Static public IP Address
- Run the content node binary

The Content Masternodes will provide file storage for the publicly accessible media and data needed for dApps and the marketplace.

## Why PIRL needs Content Masternodes and what is their importance?



Content Masternodes network runs the IPFS protocol. This will enhance the ecosystem by providing the possibility for hosting immutable content protected from single point attacks and DDoS.

## 3.2 IPFS - Immutable Hypermedia Protocol

The InterPlanetary File System (IPFS) is a peer-to-peer distributed file system that seeks to connect all computing devices with the same system of files.

In some ways, IPFS is similar to the Web, but IPFS could be seen as a single BitTorrent swarm, exchanging objects within one Git repository. In other words, IPFS provides a high throughput content-addressed block storage model, with content addressed hyperlinks. This forms a generalized Merkle DAG, a data structure upon which one can build versioned file systems, blockchains, and even a Permanent Web. IPFS combines a distributed hash table, an incentivized block exchange, and a self-certifying namespace. IPFS has no single point of failure, and nodes do not need to trust each other.

IPFS is a distributed file system which synthesizes successful ideas from previous peer-to-peer systems, including DHTs, BitTorrent, Git, and SFS. The contribution of IPFS is simplifying, evolving, and connecting proven techniques into a single cohesive system, greater than the sum of its parts. IPFS presents a new platform for writing and deploying applications, and a new system for distributing and versioning large data. IPFS could even evolve the web itself. IPFS is peer-to-peer; no nodes are privileged. IPFS nodes store IPFS objects in local storage. Nodes connect to each other and transfer objects. These objects represent files and other data structures. The IPFS Protocol is divided into a stack of sub-protocols responsible for different functionality.

1. Identities - manage node identity generation and verification.
2. Network - manages connections to other peers, uses various underlying network protocols. Configurable.
3. Routing - maintains information to locate specific peers and objects. Responds to both local and remote queries. Defaults to a DHT, but is swappable.
4. Exchange - a novel block exchange protocol (BitSwap) that governs efficient block distribution.
5. Objects - a Merkle DAG of content-addressed immutable objects with links. Used to represent arbitrary data structures, e.g. file hierarchies and communication systems.
6. Files - versioned file system hierarchy inspired by Git.
7. Naming - A self-certifying mutable name system.

### **IPFS is designed to be used in a number of different ways:**

- As an encrypted file or data sharing system.
- As a database: applications can write directly to the Merkle DAG data model and get all the versioning, caching, and distribution IPFS provides.
- As a linked (and encrypted) communications platform
- As a mounted global filesystem, under /ipfs and /ipns

 **Source:** [ipfs.io](https://ipfs.io)

# ETHEREUM INHERITED TECH

## 3.3 Smart Contracts

A smart contract is a computer code running on top of a blockchain containing a set of rules under which the parties to that smart contract agree to interact with each other. If and when the pre-defined rules are met, the agreement is automatically enforced.

The smart contract code facilitates, verifies, and enforces the negotiation or performance of an agreement or transaction. It is the simplest form of decentralized automation.

It is a mechanism involving digital assets and two or more parties, where some or all of the parties deposit assets into the smart contract and the assets automatically get redistributed among those parties according to a formula based on certain data, which is not known at the time of contract initiation.

Transactions Costs of Coordination & Enforcement Smart contracts radically reduce transaction costs. Auto enforceable code – whether on the protocol level or on the application level – standardizes transaction rules, thus reducing the transaction costs of:

- reaching an agreement,
- formalization, and
- enforcement.

A smart contract can formalize the relationships between people, institutions and the assets they own. The transaction rule sets (agreement) of the smart contract define the conditions – rights and obligations – to which the parties of a protocol or smart contract consent. It is often predefined,

and agreement is reached by simple opt-in actions. This transaction rule set is formalized in digital form, in machine-readable code (formalization). These rights and obligations established in the smart contract can now be automatically executed by a computer or a network of computers as soon as the parties have come to an agreement and met the conditions of the agreement (enforcement).

### **Smart Contracts are**

- Self-verifying
- Self-executing
- Tamper resistant

### **Smart Contracts can**

- Turn legal obligations into automated processes.
- Guarantee a greater degree of security.
- Reduce reliance on trusted intermediaries.
- Lower transaction costs.

### 3.4 EVM

The EVM is a security oriented virtual machine, designed to permit untrusted code to be executed by a global network of computers. To do so securely, it imposes the following restrictions:

- Every computational step taken in a program's execution must be paid for up front, thereby preventing Denial-of-Service attacks.
- Programs may only interact with each other by transmitting a single arbitrary-length byte array; they do not have access to each other's state.
- Program execution is sandboxed; an EVM program may access and modify its own internal state and may trigger the execution of other EVM programs, but nothing else.
- Program execution is fully deterministic and produces identical state transitions for any conforming implementation beginning in an identical state.

These restrictions motivated many of the design decisions, and their enforcement is pervasive throughout the specification.

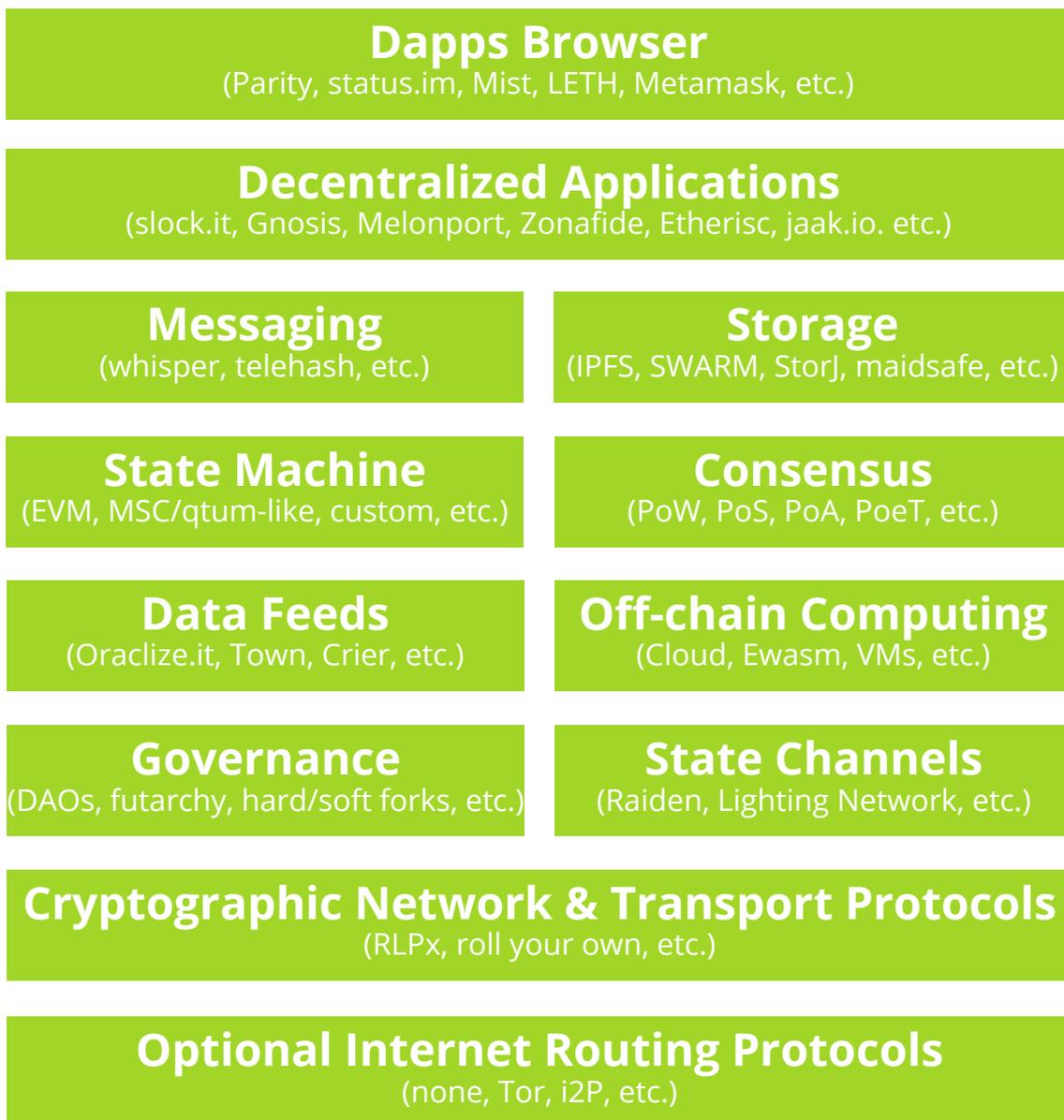
 **Source:** [github.com/CoinCulture/evm-tools](https://github.com/CoinCulture/evm-tools)

### 3.5 Web3.js - Ethereum JavaScript API

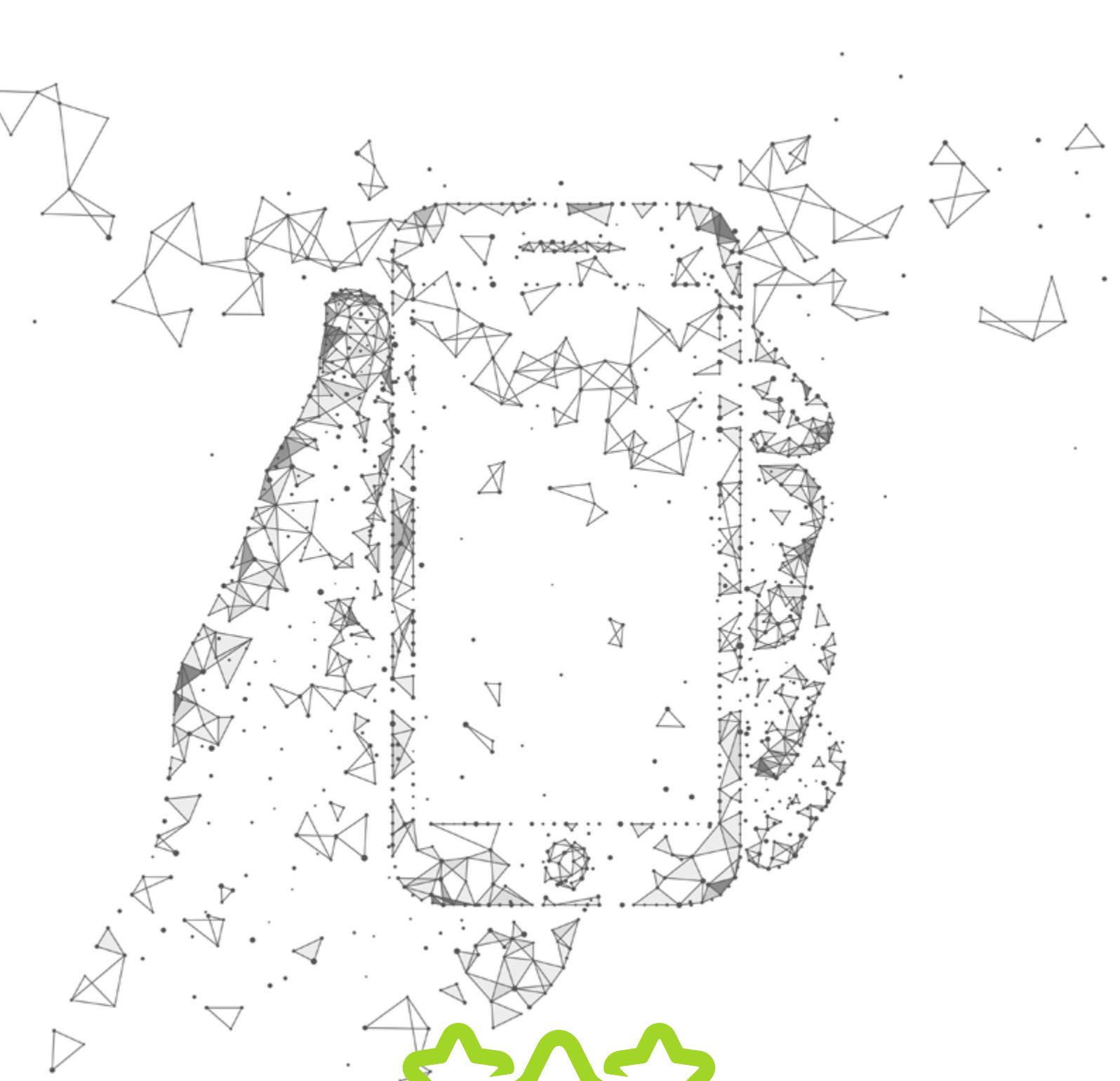
WEB3 is the vision of the serverless internet, the decentralised web. "An internet where users are in control of their own data, identity and destiny."

Web3.js is a collection of libraries which allow you to interact with a local or remote ethereum node, using a HTTP or IPC connection. This is the Ethereum compatible JavaScript API which implements the Generic JSON RPC spec.

## THE WEB 3.0 ABSTRACTED STACK



 **Source:** [blockchainhub.net/web3-decentralized-web](https://blockchainhub.net/web3-decentralized-web)



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**PIRL FEATURES**

# PIRL Features

## 4.1 The Marketplace

As with any growing ecosystem, we value functionality and look into maximizing the use cases within the network. With the Peer-to-Peer Marketplace, all movements of goods within our network will be made with ease in the networks native currency.

The marketplace is designed to be a complete peer-to-peer solution where users will be able to buy and sell products and services in a completely secured environment.

- **Buy:** Buy any listed products or services, post your own Buy ad.
- **Sell:** Sell products and services in your own customizable shop.
- **Escrow:** All trades will be done through an escrow smart contract.
- **Smart Contracts:** Buy, sell and offer Smart Contracts customization or private chain integration services.
- **Jobs and services:** Connect the freelance community to the business community in a secure p2p network
- **Customizable shop:** Customize your own shop to give it a unique look for your customers.
- **Rating and feedback system:** Each deal will initiate a short survey for both sides to rate their satisfaction with a field for short feedback message.
- **Disputes Management:** In case of disagreement on any of the sides of the deal a dispute management system will be in place for trade audit.



# PIRL P2P MARKETPLACE

## Products

Buy and sell products. Easy and Safe. Trade peer2peer without need of fiat. While having a full escrow protection.

## Smart Contracts

The marketplace will provide platform for smart contract developers. You will be able to buy and sell Ready to use smart contracts as well as hire a developer for customization and personalization.

## Features

- Payment gateway
- Customizable and decentralized shop
- Rating system
- Feedback system
- Auction system
- Integrated encrypted trade-chat
- Escrow
- Disputes management
- Decentralized private messaging system

## Fees and Rewards

Market fees will split 50/50 between the platform and the masternode network.

The fees in the marketplace will be decided based various factors. Including traders ratings and market volume.

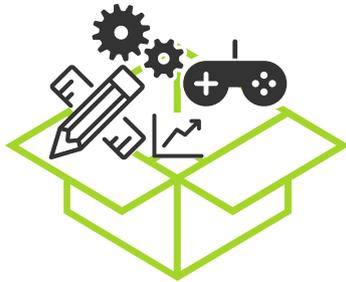
## Escrow

The marketplace safe trading will be backed up by Escrow smart contract generated for each trade with the agreed in the deal terms.

## Services

Users will have ability to offer and hire services. The platform will allow each service provider to list his offers and receive rating on each offered service quality.

The marketplace fees will be split between the masternode network and the platform.



# PIRLAPP

A  PIRL dApp Explorer

## 4.2 PirlApp

PirlApp is the All-In-One platform which fuses together the PIRL universe and delivers it in your hands. Your complete PIRL experience will be available on mobile and desktop devices allowing you to enjoy your favorite decentralized applications anywhere you like.

PIRL team is developing and will provide various useful decentralized applications such as:

- Decentralized File Sharing & Storage
- Decentralized Escrow Protected Marketplace
- Decentralized Live Streaming & Video Sharing

Together with the built-in decentralized applications PirlApp will be continuously updated with new useful applications giving the power of decentralization in your hands.

The platform, ca much like the mobile Playstores will also act as a decentralized applications explorer as well as a mobile wallet. No MetaMask required!

DAPP developers will be allowed to submit their applications and add them to the platform. Users will be able to:

- Browse, Directly Access & Use Available DApps
- Add/Remove them from their DApps bucket
- Rate and Comment



### **4.3 Project Incubator Program**

The project incubator program is utilizing the dev fund to stimulate the development of new projects who decided to benefit from hosting on the PIRL network.

Decentralized Application developers will be able to participate in contests for the chance to win prizes in PIRL to help them in their first steps into project realization, official endorsement, and support from the PIRL team.

Furthermore, the program will evolve and will be spread through establishing connections and partnerships with notable blockchain development academies. These connections and partnerships will enlighten the graduating students about the functionality and benefits of PIRL as a host for their projects, and to support their innovative minds into their journey.



## 4.4 PirlPay

### INTRODUCING

We would like to introduce you to “PirlPay” the payment gateway built to service the ecosystem payments by providing easy to use secure interface for payment processing.

The feature will allow Merchants, Ecommerce platforms and Service providers to adopt PIRL as payment option for their products and services.

Unlike some of the existing payment processing solutions in blockchain ecosystem, “PirlPay” will allow you to directly link it to your wallet through Poseidon account and operate fast, easy and secure.

“PirlPay” payment processing will be utilized in the PIRL All-In-One platform which will provide various decentralized applications for File storage, Entertainment, Communication and Peer-to-peer escrow protected trading.





## MARKETPLACE

A buyer picks an item from the marketplace and proceeds to purchase. If he or she uses “PirlPay” as a payment option, it transfers and locks the required PIRL into a smart contract. When the smart contract terms are fulfilled, the seller receives the payment in PIRL.



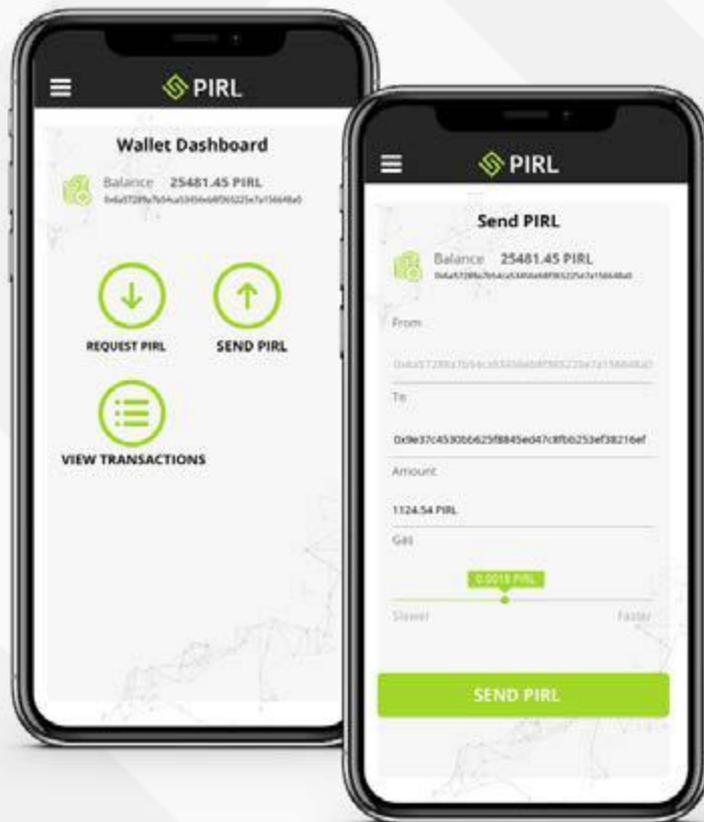
## WEB STORE

A unique feature of “PirlPay” is that any store on the internet can implement it as a checkout option. This means that even if something is being sold for fiat, the gateway will calculate the amount of PIRL equal to the fiat asking price, and transfer that amount of PIRL to the seller. Plugins that enable „PirlPay” will be available for various popular shopping carts.



## MOBILE PAYMENTS

“PirlPay” with all of its features will also be completely accessible through all popular mobile devices.



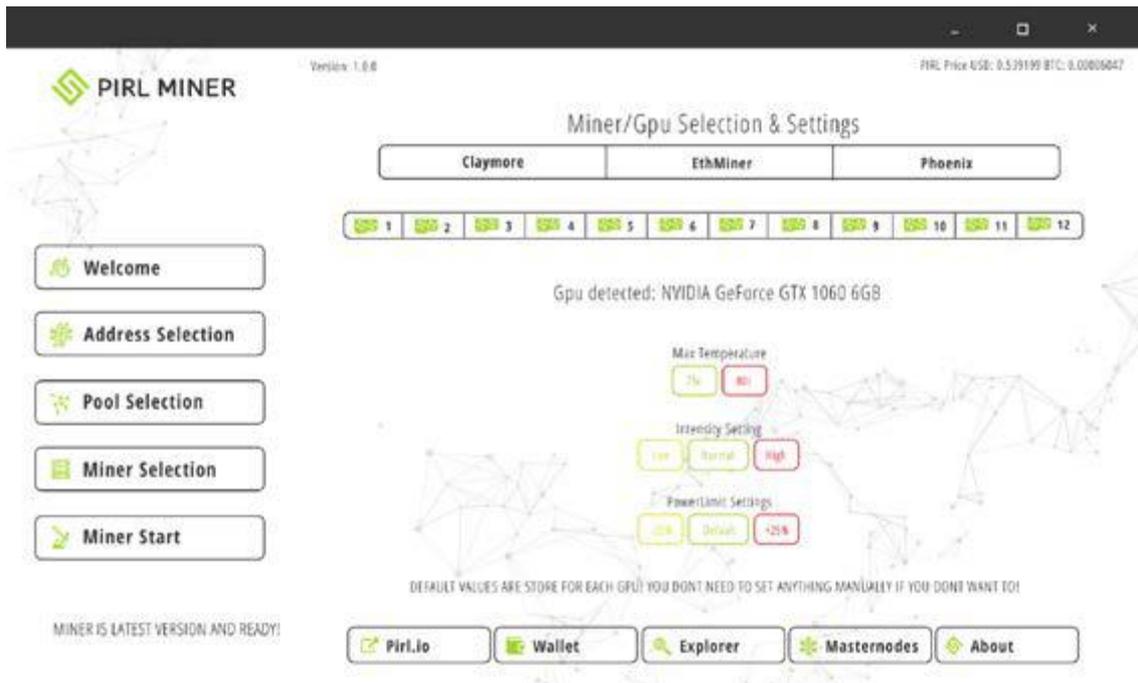
## FEATURES

- Support For Popular Ecommerce Plugins (v1)
- Available for desktop and mobile devices (v1)
- Directly available on PIRL Platform (v1)
- Direct link to PIRL wallet (v1)
- Administration Panel (v1)
- Mobile Payments (v2)
- Easy integration (v2)
- Public API (v1)



### 4.5 EZminer

PIRL has a goal to be as user-friendly as possible while providing a state of the art platform for developers. All aspects of the network are carefully analyzed and under development to reach a simple use for everyone without requiring advanced technical knowledge to operate. For example, in regards to mining, we created the EZminer, so anyone who owns a GPU is able to mine in 3 easy steps that do not require any advanced technical knowledge. PIRL EZminer is a simple application that guides you through 3 easy steps to mine PIRL with your AMD or Nvidia GPU. The application takes care of all the necessary modules that need to be installed in the background and setups the miner. The user simply needs to pick his pool and the address to mine to.



## EZminer Features:

- Easy setup of eZminer.
- Windows 64bit / Linux / Mac Os X.
- Direct Link to wallet creation.
- PIRL Wallet recognition in the system Oyster/Nautilus.
- Pool list.
- Manual override of wallet address in case of wallet detection.
- Advanced settings including Intensity and miner output with dashboard in e-miners case.
- On applications UI links for everything related to PIRL and the project.
- Direct linking via the UI to pool site for monitoring the user mining status.

## 4.6 Poseidon

Poseidon is a unique all-in-one platform, where, with a single point of entry, a user can gain access to many of PIRL's unique features and capabilities.

### Poseidon will grant users access to:

- Blockchain Explorer
- Masternodes Control Panel
- 1-click Masternode installation
- Poseidon Wallet
- Marketplace
- DApps Explorer
- Payment Gateway
- Exchange



Poseidon will later evolve into application for various OS

# ROADMAP



## BRANDING!

Plan and document the Pirl brand for future development allowing for easy onboarding of future staff and consistent design.



## CREATE WALLET FOR LINUX

Develop and release wallet for Linux!



## CREATE MINING POOL



## PIRL BLOCK EXPLORER

Develop and Release blockchain explorer!

# ROADMAP



## **CREATE WALLET FOR WINDOWS**

Develop and release Windows wallet.



## **CREATE WALLET FOR MAC**

Develop and release Mac wallet.



## **RELEASE EZMINER**

Develop and Release blockchain explorer!



## **EXCHANGES LISTING**

Provide trading environment for PIRL Community.

# ROADMAP



## **POSEIDON PLATFORM**

Develop All-In-One Platform for access to all Pirl features with single point of entry.



## **PREMIUM MASTERNODES**

Develop and launch the first ETHASH based masternode network.



## **IMPLEMENT MONETARY POLICY**

Implement monetary policy for control over inflation and structured block rewards halving.

# ROADMAP



## LAUNCH INCUBATOR PROGRAM

Provide trading environment for PIRL Community.



## DEVELOP POSEIDON FEATURES

Develop and launch various decentralized applications for File storage, Entertainment and Communication !



## DEVELOP DECENTRALIZED MARKETPLACE

Build decentralized products and services trading environment with escrow protection !

# ROADMAP



## **REGISTER PIRL COMPANY**

Register PIRL as „Blockchain Technology“ Company.



## **CREATE NEW WALLET**

Develop and release a new Pirl built wallet.



## **CONTENT MASTERNODES**

Launch Content Masternodes Network - Autonomous network for immutable content.

# ROADMAP



## STORAGE MASTERNODES

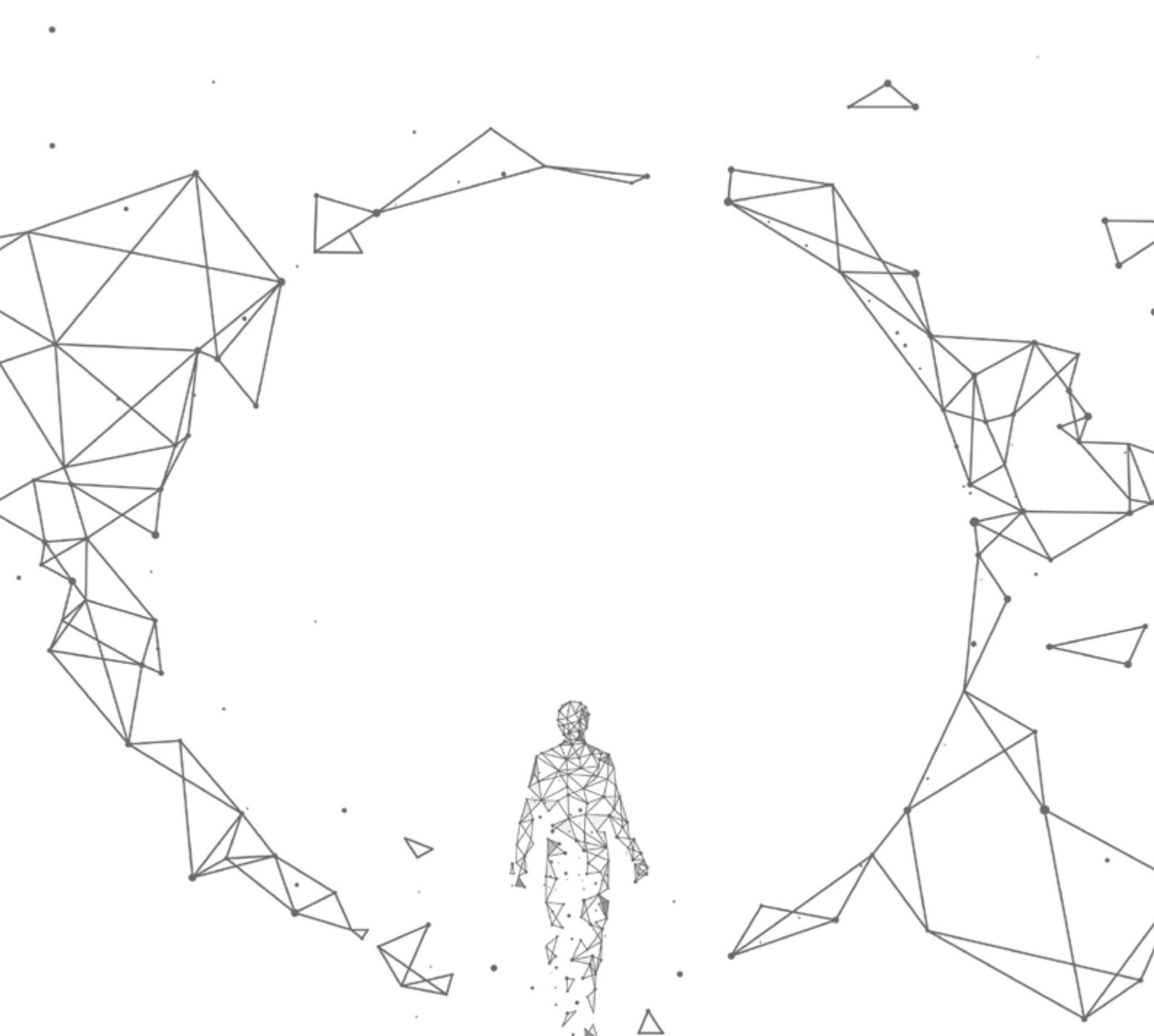
Launch Storage Masternodes Network - Autonomous network for decentralized storage.



## EXTERNAL PAYMENT SOLUTION

Allow purchase of Pirl directly in fiat using a number of payment methods and solutions allowing access to everyday users.

**SEE THE PROCESS ONLINE ON [PIRL.IO!](https://pirl.io)**



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# HOW TO EARN PIRL

# 5. HOW TO EARN PIRL

## 5.1 Mining

Mining is the process of adding transaction records to PIRL public ledger of past transactions (a „mining rig“ is a colloquial metaphor for a single computer system that performs the necessary computations for „mining“). This ledger of past transactions is called the “block-chain” as it is a chain of blocks. The blockchain serves to confirm transactions to the rest of the network as having taken place. PIRL nodes use the blockchain to distinguish legitimate PIRL transactions from attempts to re-spend coins that have already been spent elsewhere.

Mining is intentionally designed to be resource-intensive and difficult so that the number of blocks found each day by miners remains steady. Individual blocks must contain a proof of work to be considered valid. This proof of work is verified by other PIRL nodes each time they receive a block. PIRL uses the ethash proof-of-work algorithm.

The primary purpose of mining is to set the history of transactions in a way that is computationally impractical to modify by any one entity. By downloading and verifying the blockchain, PIRL nodes are able to reach consensus about the ordering of events in PIRL.

Mining is also the mechanism used to introduce PIRL coins into the system: Miners are paid any transaction fees as well as a „subsidy“ of newly created coins. This both serves the purpose of disseminating new coins in a decentralized manner, as well as, motivating people to provide security for the system.

PIRL mining is so called because it resembles the mining of other commodities: it requires exertion (proof of work POW) and it slowly makes new units available to anybody who wishes to take part. An important difference is that the supply does not depend on the amount of mining. In general changing total miner hashpower does not change how many coins are created over the long term.



PIRL is mined with Proof of Work (PoW) on ASIC resistant Dagger Hashimoto algorithm. And is designed to forever stay PoW.

## 5.2 Operating a Masternode on PIRL network

Operating a Masternode on PIRL network does not only help the network guarantee continuous and safe operation, but also rewards the masternode operators for their participation. The 3 Masternode networks distribute rewards based on their contribution and locked collateral:

### **Premium Masternodes** – 20 000 PIRL Collateral

“Premium Masternodes will be the highest rewarded masternodes on the network. Besides the block reward the Premium Masternodes will receive % of the fees from Poseidon platform as well as rewards based on used storage space and bandwidth”

### **Storage Masternodes** – 10 000 PIRL Collateral

“Storage Masternodes will be rewarded with share of the block reward as well as additional reward for bandwidth and storage used”

### **Content Masternodes** – 10 000 PIRL Collateral

“Content Masternodes will be rewarded with share of the block reward as well as additional reward for bandwidth and storage used”

### **Important Note:**



The collateral is only locked amount of PIRL which can be withdrawn at any time by shutting down your Masternode and executing “Withdraw” command in your wallet.



# COIN SPECIFICATION

# 6. COIN SPECIFICATION

## 6.1 Monetary Policy and block rewards distribution

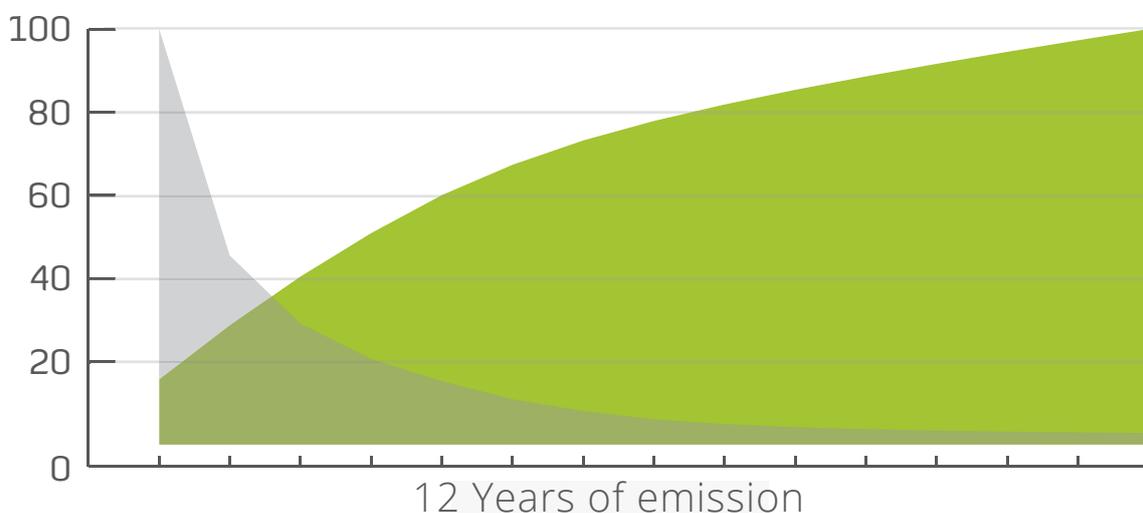
The “block rewards” are the sole creation events for PIRL coins, being distributed to both the miner and the masternode operators for the PIRL network.

Controlling and restricting the block rewards themselves is the most effective method of avoiding a high rate of inflation. As the popularity of PIRL increases over time, the size of the block reward will be reduced, decreasing the supply of newly issued coins until the Max Supply Cap, that is also being introduced with this release, is reached.

Every two million blocks (block time target is at 13 seconds), the reward will be decreased until reaching the Max Supply Cap of 156,306,732.71 PIRL coins. Starting with block 2,000,000 the block reward will also be reallocated, this will even out the coins issued between masternode operators and miners.

Estimation of Block rewards halving structure and details on rewards distribution based on continuous block halving and 2% estimated uncle rewards.

### Emission rate vs Total Supply



## Block rewards change structure and estimation on coin supply

Block height	Dev fund	Days to fulfill	Est Date	Years to fulfill	Emission Relation	
0	2.000.000	1,00	301	28.07.2018	0,8	100,00%
2.000.001	4.000.000	1,00	602	25.05.2019	1,6	45,45%
4.000.001	6.000.000	1,00	903	21.03.2020	2,5	29,03%
6.000.001	8.000.000	1,00	1.204	16.01.2021	3,3	20,51%
8.000.001	10.000.000	1,00	1.505	13.11.2021	4,1	15,22%
10.000.001	12.000.000	0,80	1.806	10.09.2022	4,9	10,85%
12.000.001	14.000.000	0,64	2.106	08.07.2023	5,8	7,99%
14.000.001	16.000.000	0,51	2.407	04.05.2024	6,6	6,01%
16.000.001	18.000.000	0,44	2.708	01.03.2025	7,4	4,86%
18.000.001	20.000.000	0,39	3.009	27.12.2025	8,2	4,13%
20.000.001	22.000.000	0,35	3.310	24.10.2026	9,1	3,65%
22.000.001	24.000.000	0,33	3.611	21.08.2027	9,9	3,30%
24.000.001	26.000.000	0,32	3.912	17.06.2028	10,7	3,05%
26.000.001	28.000.000	0,30	4.213	13.04.2029	11,5	2,86%
28.000.001	30.000.000	0,30	4.514	08.02.2030	12,4	2,71%

Block height	Coin Emission	Total Supply	Block reward	Miners reward	MNs
0	2.000.000	24.480.000,00	12,00	10,00	1,00
2.000.001	4.000.000	20.400.000,00	10,00	6,00	3,00
4.000.001	6.000.000	18.360.000,00	9,00	5,00	3,00
6.000.001	8.000.000	16.320.000,00	8,00	4,00	3,00
8.000.001	10.000.000	14.280.000,00	7,00	3,00	3,00
10.000.001	12.000.000	11.424.000,00	5,60	2,40	2,40
12.000.001	14.000.000	9.139.200,00	4,48	1,92	1,92
14.000.001	16.000.000	7.311.360,00	3,58	1,54	1,54
16.000.001	18.000.000	6.214.656,00	3,05	1,31	1,31
18.000.001	20.000.000	5.515.507,20	2,70	1,16	1,16
20.000.001	22.000.000	5.050.136,28	2,48	1,06	1,06
22.000.001	24.000.000	4.730.557,34	2,32	0,99	0,99
24.000.001	26.000.000	4.506.040,66	2,21	0,95	0,95
26.000.001	28.000.000	4.345.644,97	2,13	0,91	0,91
28.000.001	30.000.000	4.229.630,26	2,07	0,89	0,89



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# **GOVERNANCE AND FINANCE**

# 7. GOVERNANCE AND FINANCE

The company operation is financed with modern approach governance model “Per-Block Allocation” that inspires and ensures continuous development and operation. PIRL has no pre-mine and did not operate an ICO.

**The per-block allocated “Dev Fund” is used for financing day to day operation that’s including but not limited to:**

- Product Development
- Business Development
- Marketing
- Legal and Administration
- Infrastructure
- Human Resources

Yearly issued company statement will be public and available for everyone interested in the company financial activities.

The exact structure of Dev Fund Allocation can be found in 6. Coin Specification - Monetary Policy.

# CONCLUSION

PIRL is self-governed ecosystem with care for innovation and development. The network connects miners, masternode operators, users, developers, traders and innovative projects in a circle of benefits.

The future development of the platform is secured by a Dev fund which is built in a unique fashion, in order to stimulate long term engagement.

With help from strong community participation which introduces bright new ideas, the PIRL team focus will remain in completing the technology that will act as a foundation of the new network, and which will bring state of the art user experiences in all related subjects.

This whitepaper does not anyhow limit the future development. It simply frames the current ideas and works in progress.

Sincerely Yours,  
PIRL Team



# RESOURCES

 [en.bitcoin.it/wiki](https://en.bitcoin.it/wiki)

 [PIRL.io/blog](https://PIRL.io/blog)

 [github.com/CoinCulture/evm-tools](https://github.com/CoinCulture/evm-tools)

 [web3js.readthedocs.io](https://web3js.readthedocs.io)

 [blockgeeks.com](https://blockgeeks.com)

 [blockchain.info](https://blockchain.info)

 [blockchainhub.net/web3-decentralized-web](https://blockchainhub.net/web3-decentralized-web)



PIRL.io