MyDataCoin

Tools for the Web3 PII Economy

MyDataCoin Protocol
Technical WhitePaper, ver.2024-MAR-17
Version 1.2

Abstract

MyDataCoin is a groundbreaking blockchain platform that aims to redefine how individuals interact with their personal data. This whitepaper provides a detailed exploration of the platform's technology, tokenomics, and its innovative approach to data exchange.

Contents

MyDataCoin

1.   Introduction
1.1.   Project Overview

In an era where data has emerged as the lifeblood of the digital age, the significance of personal information cannot be overstated. The rapid digitization of society has ushered in an unprecedented era of interconnectedness, driven by the constant exchange of data between individuals, businesses, and institutions. As our lives become increasingly entwined with technology, the need for a secure, transparent, and user-centric approach to data management has never been more crucial.

This whitepaper delves into the heart of MyDataCoin's mission, elucidating the pressing need for a paradigm shift in how we perceive, manage, and benefit from personal data. From exploring the challenges posed by the current data landscape to unveiling the innovative solutions MyDataCoin brings, this document aims to provide a comprehensive understanding of the transformative potential inherent in this cutting-edge cryptocurrency.

As we embark on this journey towards a future where individuals wield unprecedented control over their digital footprint, join us in unraveling the layers of MyDataCoin – a currency not just of transactions, but of empowerment, transparency, and data sovereignty.

1.2.   Goals

MyDataCoin aims to become the leading ecosystem that empowers individuals with control over their data, while also ensuring a trusted and transparent distribution of digital dividends.

The goal of this protocol is to provide a decentralized and transparent data sharing mechanism that empowers individuals to control their personal data and securely share it with trusted parties. By leveraging the MyDataCoin network and associated technologies, this protocol aims to improve data privacy and security while enabling more efficient and effective data sharing.

The **goals** of MyDataCoin also include:
- Providing users with **maximum control over their personal data** through tokenization and blockchain technologies.
- Ensuring a **high level of data security and confidentiality**, preventing unauthorized access and use.
- Creating a unique platform that allows users to **monetize** their personal data through digital tokens and receive digital dividends from their use.
- Development of **an ecosystem** that unites users, purchasing companies and data providers for mutually beneficial information exchange.
- Ensuring that the MyDataCoin platform **complies with existing regulatory requirements** in the field of data protection and transparency.
- The introduction of advanced technologies such as blockchain to ensure **sustainability** and **innovation** in the field of personal data management.
- Providing educational resources and ensuring **transparency** regarding the benefits, opportunities and use of data on the platform.
- **The development** and **expansion** of MyDataCoin's activities at the global level, involving various regions and industries.

MyDataCoin

2. Technology and Architecture
2.1. Business Processes

The MyDataCoin use case flow involves users downloading the mobile app, setting preferences for data monetization, providing a consent to data holders, and earning rewards.
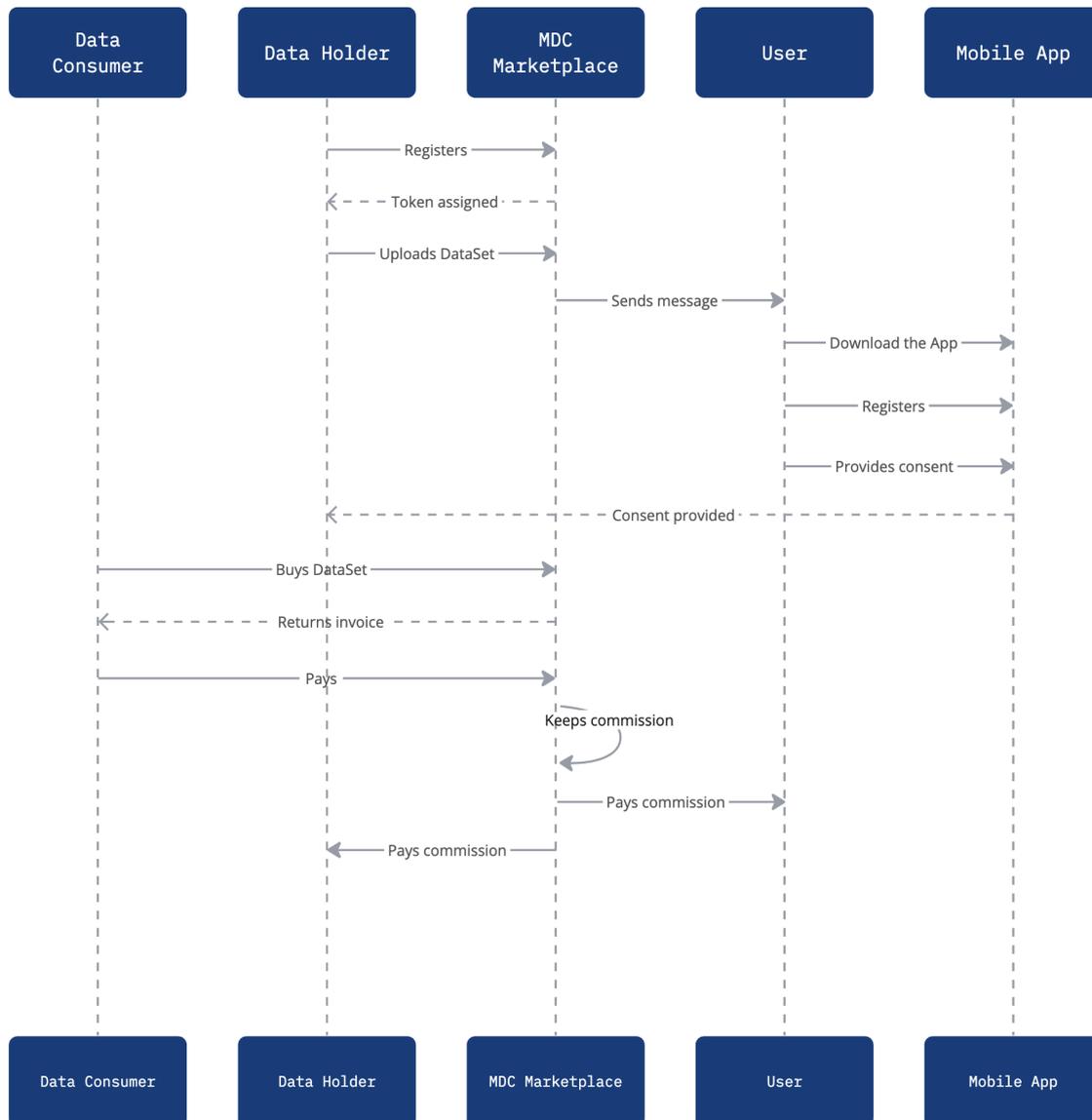
2.1.1. User Registration, Setup and Consent Providing

Users may receive further data requests, take advantage of promotional codes, monitor earnings, and interact with the app via personalized notifications and feedback features. The flow emphasizes user control, transparency, and possibilities for data monetization within the MyDataCoin network.
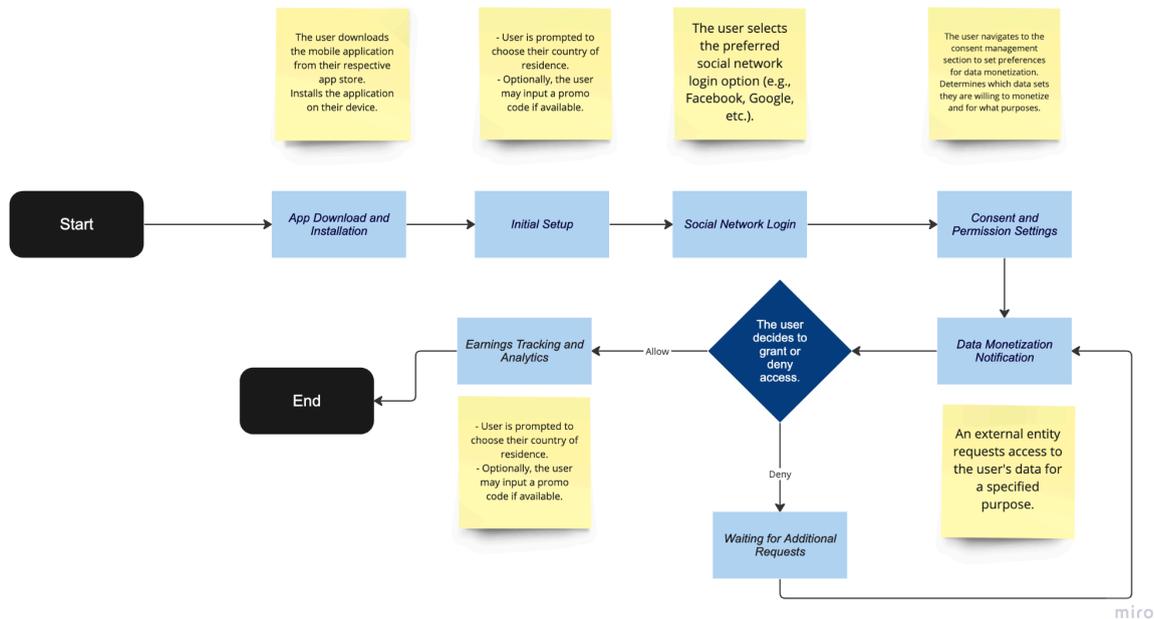
In order to officially consent to the transfer of personal data for future monetization purposes, the user is required to sign their consent using an electronic digital signature (which will be replaced by a private key in Phase 2).

User identification is the process of verifying the identity of users through the use of facial recognition systems. It is important to note that the specific methods and requirements for user identification **may vary depending on the regulatory environment in which MyDataCoin operates.**

MyDataCoin

2.1.2. Data Holder Registration, Setup, DataSet Uploading
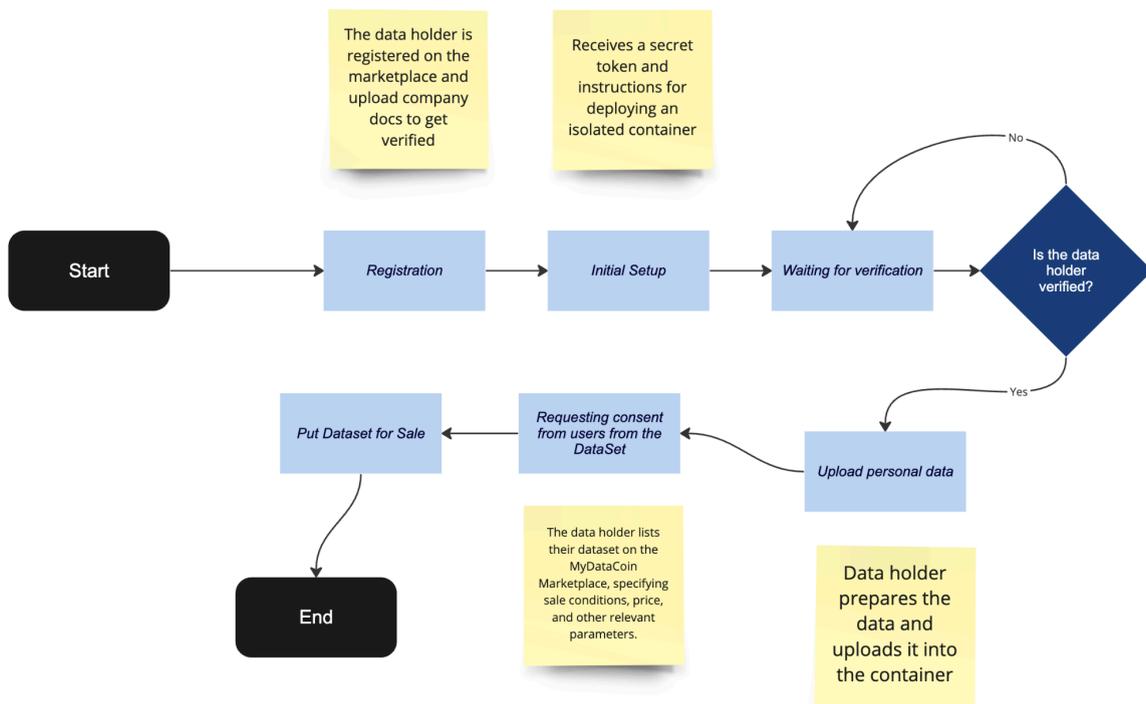
In the MyDataCoin ecosystem, data holders play a crucial role in providing valuable data for monetization. Here's how the registration, setup, and dataset uploading process works:

Registration: Data holders begin by registering on the app.mydatacoin.io platform. This typically involves providing basic information such as name, email, and organization details. The registration process may also include **verification steps** to ensure the legitimacy of data holders and enhance security within the platform. Next, the data holder must, following instructions, deploy a Docker container necessary to further load a set of data into it, which will later be displayed on the marketplace.

Dataset Preparation: Before uploading datasets, data holders prepare their data to ensure it is clean, organized, and compliant with relevant regulations(**may vary depending on the regulatory environment in which MyDataCoin operates**). This may involve anonymizing sensitive information, removing duplicates, and structuring data in a standardized format for easy integration with the MyDataCoin platform.

DataSet Uploading: With their accounts set up and datasets prepared, data holders proceed to upload their datasets to the Docker container they prepared before**(Important! All the data will be stored in Data Holder's environment)**. The platform provides intuitive tools and interfaces for uploading datasets, with options to specify metadata, data categories, and pricing parameters. Upon successful upload, datasets are securely stored and made available for potential buyers within the MyDataCoin marketplace.

MyDataCoin

2.1.3. DataSet Sale and Reward Distribution

In the MyDataCoin ecosystem, the sale of datasets and the distribution of rewards are integral components that drive the data monetization process. Here's how the process unfolds:

DataSet Listing: Data providers list their datasets on the MyDataCoin marketplace, specifying details such as data categories, pricing, and usage terms. Buyers can browse the marketplace, explore available datasets, and assess their suitability for their needs.

Purchase Transaction: Interested buyers select the datasets they wish to purchase and proceed with the transaction. Interested buyers select the datasets they wish to purchase and proceed with the transaction. Payments are made in the **currency of the country where MyDataCoin operates**, ensuring ease of use and accessibility for users. (In Phase 2 of development, MyDataCoin plans to transition to accepting payments in MDC tokens)

Data Access: Upon successful purchase, buyers gain access to the purchased datasets through the MyDataCoin platform. Buyers have the option to request data delivery via email or access it directly through the platform's API. This flexibility ensures that buyers can retrieve their purchased datasets in a manner that best suits their workflow and integration needs. Access controls and permissions are enforced to ensure compliance with data usage terms and privacy regulations.

Reward Distribution: The rewards earned by data providers are distributed in the currency of the country where MyDataCoin operates.(In Phase 2 Distribution occurs automatically through smart contracts or platform mechanisms, ensuring prompt and accurate reward allocation).
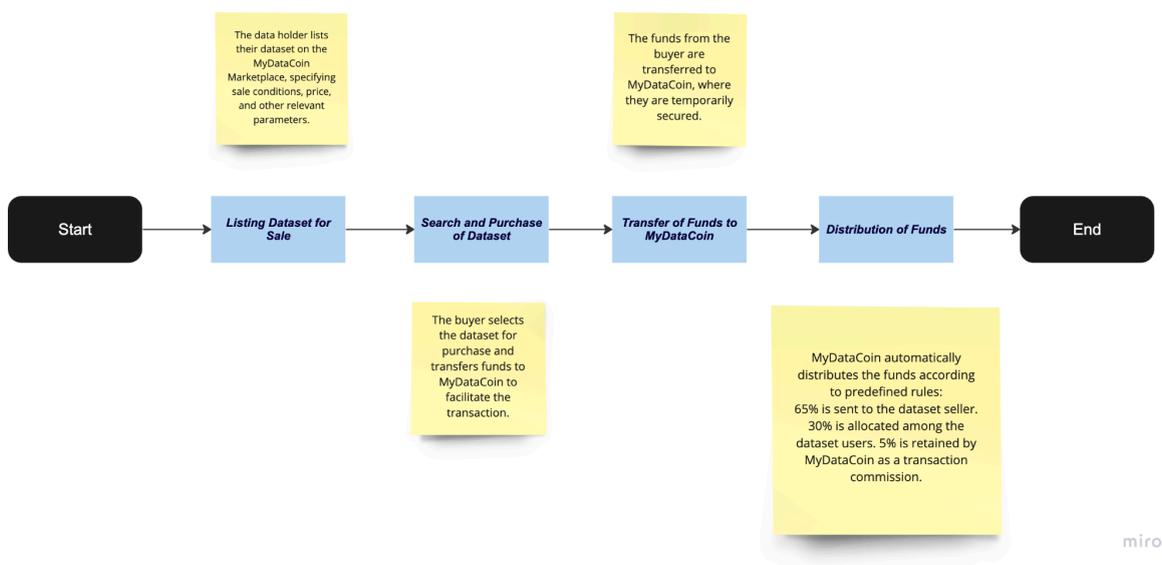
2.2. Core Components

MyDataCoin is in the process of developing a public blockchain that utilizes the **Cosmos SDK** and **Tendermint Core** technologies. The Cosmos SDK provides a framework for building customizable, modular blockchains that can interoperate with one another. It also includes tools for developing decentralized applications (dApps) and smart contracts. Tendermint Core is a consensus engine that uses the **Tendermint BFT** (Byzantine Fault Tolerance) algorithm to ensure secure and fast transaction processing on the blockchain. By utilizing these technologies, MyDataCoin aims to create a scalable and interoperable blockchain platform that can be used for a variety of decentralized applications, including data sharing and privacy-preserving technologies.
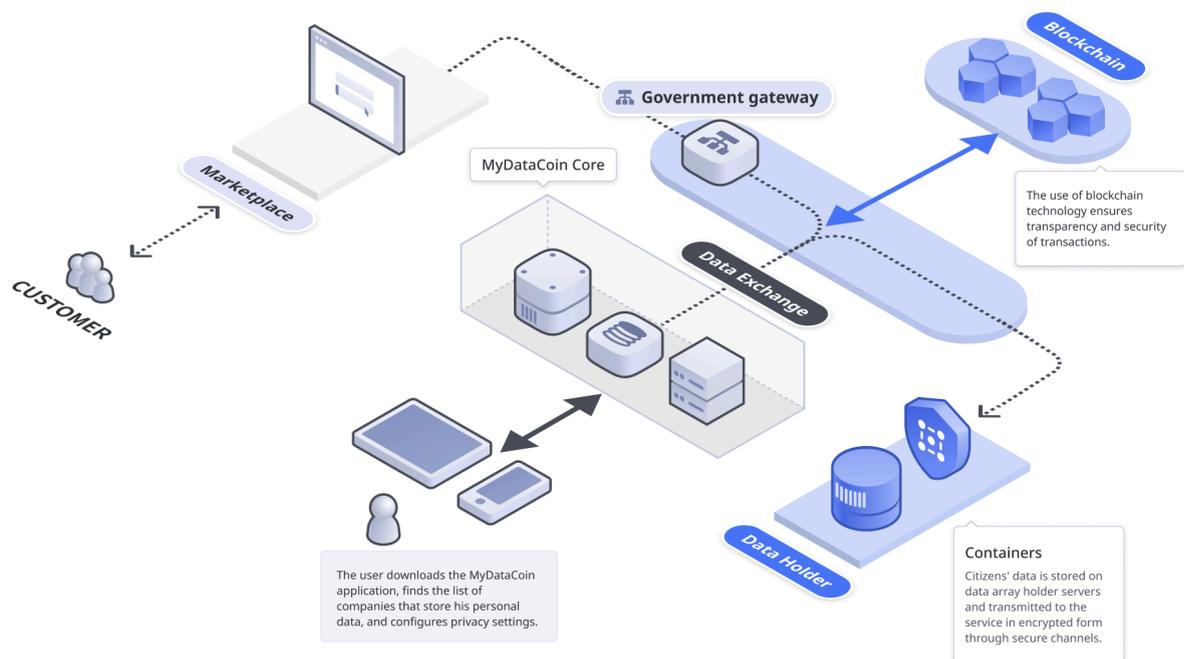
The Tendermint Core is a high-performance, consistent, flexible, and secure **consensus** module with strict fork accountability. It relies on Proof-of-Stake (PoS) with delegation and Practical Byzantine Fault Tolerance. This advantage provides us a possibility to develop a high-performance, consistent and secure decentralized network.
The Tendermint BFT provides security guarantees, including:

- **Forks** are never created, provided that half or more validators are honest.
- **Strict accountability** for fork creation allows determining liability.
- Transactions are **finalized** as soon as a block is created.

The Cosmos SDK provides a rich set of modules that address common concerns such as governance, tokens, other standards, and interactions with other blockchains through the **Inter-Blockchain Communication** Protocol (IBC). Some production-grade modules such as Auth, Bank, Distribution, Mint, etc, are going to be used in MDC.

MyDataCoin

The signing of a smart agreement between the participants of the system should be carried out using CosmWasm. CosmWasm is a new smart contract platform created for the Cosmos ecosystem.

2.2.1. MyDataCoin Bridge
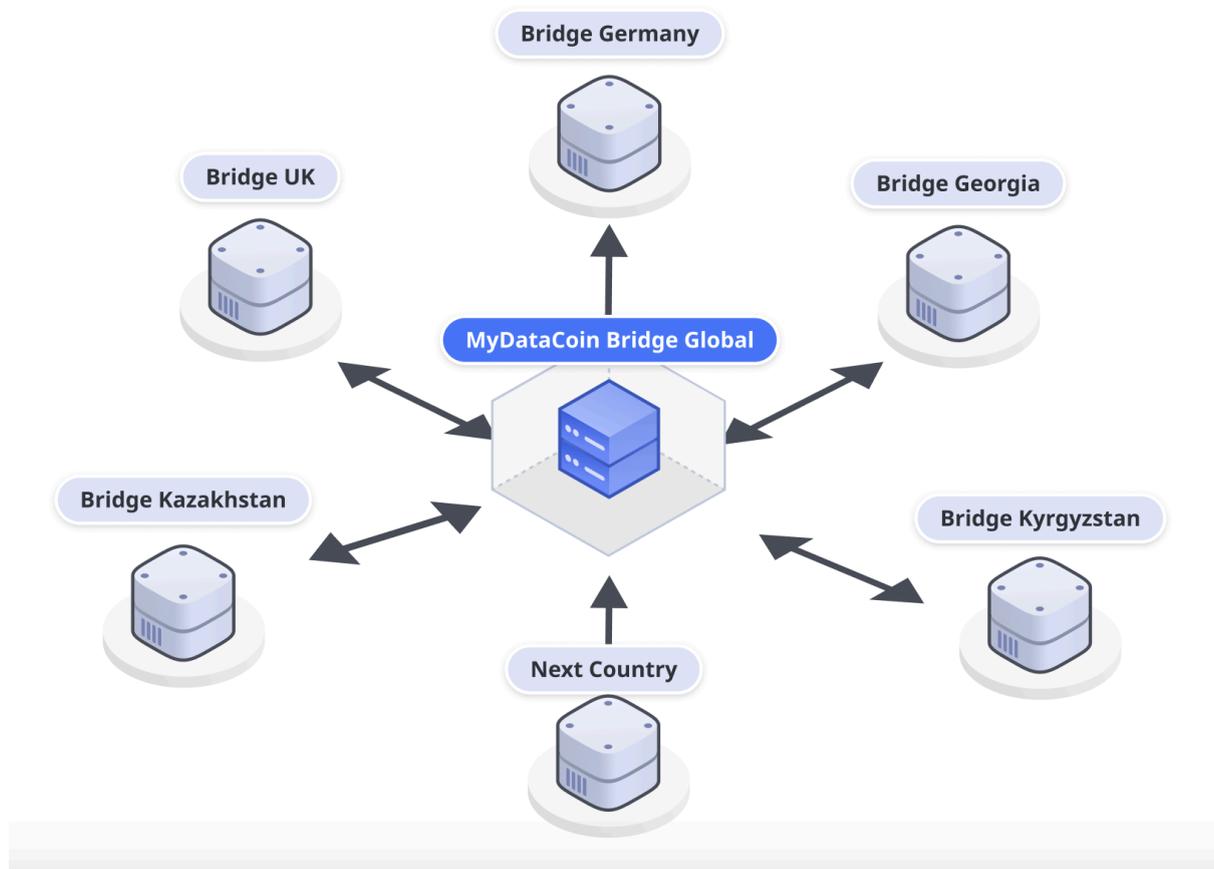
MyDataCoin envisions becoming a global force in the realm of personal data exchange, strategically positioning itself through the deployment of both local and global bridges. These bridges serve as pivotal components in the platform's expansion strategy, facilitating secure and efficient data transactions on both local and international scales.

The local bridge is designed to cater to specific regional needs, ensuring optimal connectivity and adherence to local data regulations. By tailoring solutions to local contexts, MyDataCoin aims to establish a strong presence in various markets, fostering trust and engagement among diverse user bases.

Simultaneously, the **"Global Bridge"** acts as a key enabler for international data transactions, breaking down geographical barriers and promoting a seamless exchange of information across borders. MyDataCoin recognizes the importance of global connectivity in the digital age and is committed to providing users with a universally accessible and secure platform for data sharing.

MyDataCoin

By strategically deploying these local bridges, MyDataCoin not only addresses the unique requirements of different regions but also positions itself as a truly global player in the evolving landscape of personal data management. The platform's commitment to adaptability, compliance, and user-centric design sets the stage for MyDataCoin to become a leading force in shaping the future of responsible and secure global data exchange.
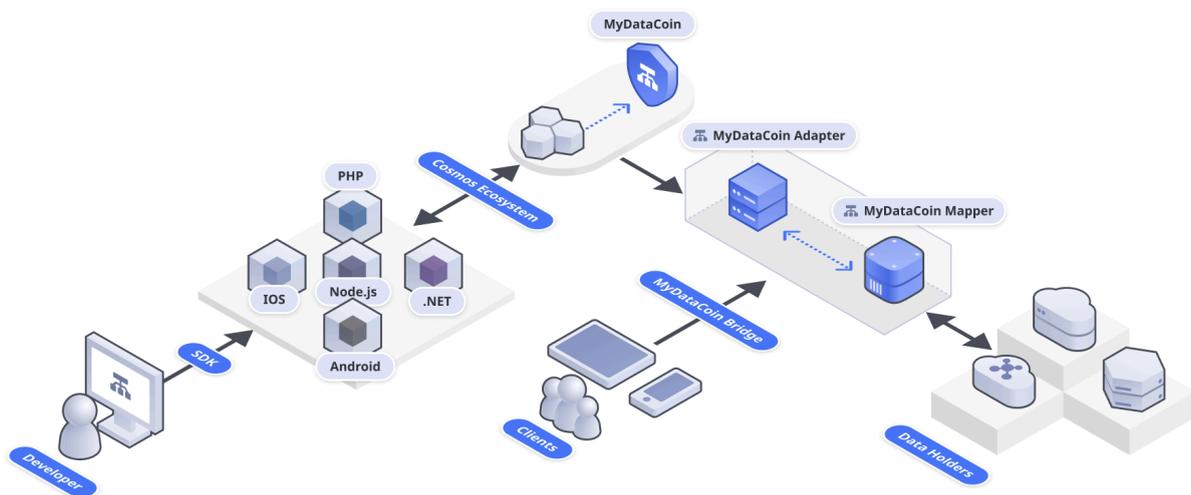
The MyDataCoin network serves as the foundational protocol facilitating secure and decentralized connectivity between data owners and data holders. Utilizing a decentralized linking mechanism, the protocol enables data owners to connect securely and transparently with multiple data holders.

The MyDataCoin Bridge implementation functions as the crucial link between the main network and data holders, ensuring the secure and efficient transmission of data. Employing the MyDataCoin Mapper solution, multiple accounts from different data holders are seamlessly combined, offering users a unified view of their data.

The primary objective of this protocol is to establish a decentralized and transparent data-sharing mechanism, empowering individuals to control their personal data and securely share it with trusted parties. Leveraging the MyDataCoin network and associated technologies, the protocol addresses the immediate needs of enhancing data privacy and security, facilitating more efficient and effective data sharing in the present landscape.

2.2.2. MyDataCoin Marketplace

The MyDataCoin Marketplace stands as the vibrant nucleus of MyDataCoin's ecosystem, where individuals and businesses converge to redefine the dynamics of **data transactions**. At its core, the Marketplace is a decentralized platform built on cutting-edge

MyDataCoin

blockchain technology, fostering a secure, transparent, and efficient environment for the exchange of personal data.

Accessible through the user-friendly web platform at app.mydatacoin.io, the Marketplace empowers participants to register as digital *Data Holders* or *Data Consumers*, leveraging smart contracts, users formalize agreements, ensuring enforceability in data transactions.

Operating within legal and ethical standards, the MyDataCoin Marketplace prioritizes compliance with data protection regulations and ethical data practices. Blockchain technology ensures transparent and secure data transactions, recording interactions immutably.

With its commitment to reshaping the data economy, fostering responsible data practices, and prioritizing individual control, the MyDataCoin Marketplace stands as an innovative force in redefining how personal data is exchanged in the digital landscape.

2.2.3. Mobile Application

Our mobile application is designed to be a practical and user-centric tool, combining the functionalities of a digital wallet with essential tools for user-managed data monetization. The primary goal is to provide a straightforward, transparent, and secure platform for individuals to interact with and profit from their personal data.

Key Features are:
- *Digital Wallet:*
  - Transaction History: Users can view a detailed log of transactions related to the monetization of their data.
  - Funds Management: Integration with popular payment systems for easy deposits and withdrawals.
- *Consent Management:*
  - Permission Settings: Users can grant and revoke consent for data monetization, specifying use cases.
  - Privacy Controls: Customizable settings for users to define the confidentiality and security levels of their shared data.
- *Activity Log and Notifications:*
  - Monetization Tracking: A log detailing which data sets were utilized and associated earnings.
  - Customizable Alerts: Users can receive notifications about transactions and data-related activities.
- *Analytics and Reports:*
  - Earnings Overview: Visual representation of earnings and demand for specific data sets.
  - Insights: Basic analytics to provide users with actionable information.
- *Profile Management:*
  - Information Updates: Users can conveniently manage and update their personal information.

MyDataCoin

2.3. Data Tokenization

MyDataCoin utilizes a robust tokenization technique to protect personally identifiable information (PII) on its blockchain platform. By employing advanced technologies such as the Cosmos SDK and Tendermint Core, the company ensures a secure and transparent conversion process for sensitive data. Through the identification of specific PII components, the platform creates unique tokens that render the original data unrecoverably anonymous.

This tokenization process relies on a sophisticated mapping system that securely links tokens to their corresponding PII. This approach not only gives individuals maximum control over their personal information but also enhances data privacy and security. It aligns with MyDataCoin's goal of empowering users in the digital era. *(Data tokenization will be implemented as part of Phase 2 of the development process.)* The data tokenization procedure will involve several steps:

Identification of Personal Data: Define the specific categories of personal data to be tokenized, including names, addresses, phone numbers, and email addresses, etc.

Generation of Unique Tokens: Develop a process for generating unique tokens for each unit of personal data, leveraging advanced cryptographic techniques to ensure their uniqueness and complexity.

Mapping Tokens to Original Data: Establish a secure mechanism to associate each token with its corresponding original personal data, possibly involving the creation of a dedicated database or management system, utilizing efficient storage solutions like **KVStore**.

Storage of Tokens and Data: Ensure the secure storage of tokens and original data using encryption methods to protect data integrity and confidentiality. Consider KVStore for its compatibility with blockchain and efficient key-value storage capabilities.

Integration into the System: Seamlessly integrate the tokenization process into the existing data processing system, creating APIs and interfaces to facilitate interaction with tokenized data while maintaining stringent security and privacy controls.

Security and Confidentiality Measures: Implement robust security measures, including encryption, access controls, and authentication mechanisms, to safeguard tokens and original data from unauthorized access or breaches. Ensure compliance with relevant data protection regulations.
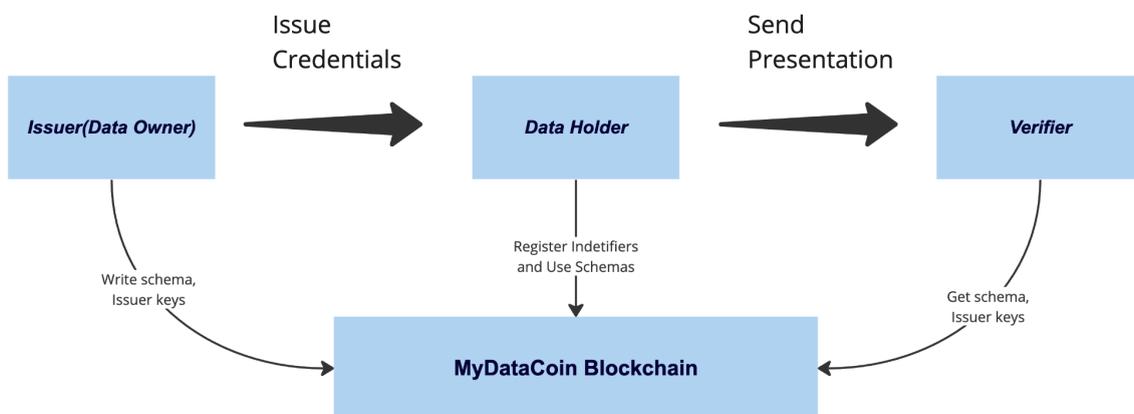
2.4. Self-Sovereign Identity

Self-Sovereign Identity (SSI) is a new approach to digital identity that puts individuals in control of their own identity data. It is built on three foundational technologies: blockchain, Decentralized Identifiers (DIDs), and Verifiable Credentials (VCs).

Blockchain provides the decentralized infrastructure for SSI, allowing individuals to securely store and manage their identity data on a distributed ledger. This eliminates the need for centralized identity providers, which can be vulnerable to data breaches and hacks.

Decentralized Identifiers (DIDs) are a type of identifier that is independent of any centralized authority or registry. DIDs are unique, cryptographically secure identifiers that are owned and controlled by the individual they represent. DIDs enable individuals to create and manage their own identity data, and to selectively share that data with others.

Verifiable Credentials (VCs) are digital credentials that contain information about an individual's identity, such as their name, date of birth, and proof of address. VCs are issued by trusted parties, such as governments, educational institutions, or employers, and are cryptographically signed to ensure their authenticity. VCs can be stored and managed by the individual they represent, and can be selectively shared with others as needed.

Together, these three technologies provide the foundation for a new paradigm of digital identity that is secure, decentralized, and empowers individuals to control their own identity data.

Why SSI?

- A secure and digital peer-to-peer channel is established between ID Issuer, ID Owner and ID Verifier. When credentials are exchanged not even the Self-Sovereign Identity system provider knows what is being exchanged. Credential issuing becomes simpler and faster.
- SSI Credentials are tamper-proof through the use of cryptography.

MyDataCoin

- They are private and under your control. SSI uses Selective Identity disclosure technology.
- Self-Sovereign Identity credentials can be verified anywhere, at any time. Even if the issuer does not exist anymore (with the exception of situations where the issuance of credentials happened using Private DIDs and the DID of the issuer was not written on the ledger).
- **Personal Data** is not stored on centralized servers. Meaning that for hackers to steal 50 million digital identity records they would have to hack those 50 million people individually. Considerably more difficult.
- Self-Sovereign Identity **tries to abolish multiple passwords**. You just need to know your wallet password.

A Decentralized Identifier (DID) is a unique identifier that is going to be used in the MyDataCoin ecosystem. Data collectors can issue signed credentials using a DID to users, allowing them to share their data with other data consumers. The authenticity of the credentials can be verified by referring to the DID document on the MyDataCoin network. The MyDataCoin-based DID is also used to ensure the reliability and integrity of the shared data. By utilizing DIDs, MyDataCoin aims to establish a self-sovereign identity system that empowers individuals to control their own data and share it with others in a secure and transparent manner.

Decentralized Identifiers are a component of larger systems, such as the Verifiable Credentials ecosystem [VC-DATA-MODEL], which influenced the design goals for this specification. The design goals for Decentralized Identifiers are summarized here.

MyDataCoin

3. Tokenomics

Total Token Supply: 1,000,000,000 MDC.

Token Distribution

Segment	Percentage
Advisors	5.0%
Core Contributors	5.0%
Marketing	10.0%
Foundation	15.0%
Ecosystem	20.0%
Team	15.0%
Seed Round	10.0%
Private Sale	15.0%
Public Sale	5.0%
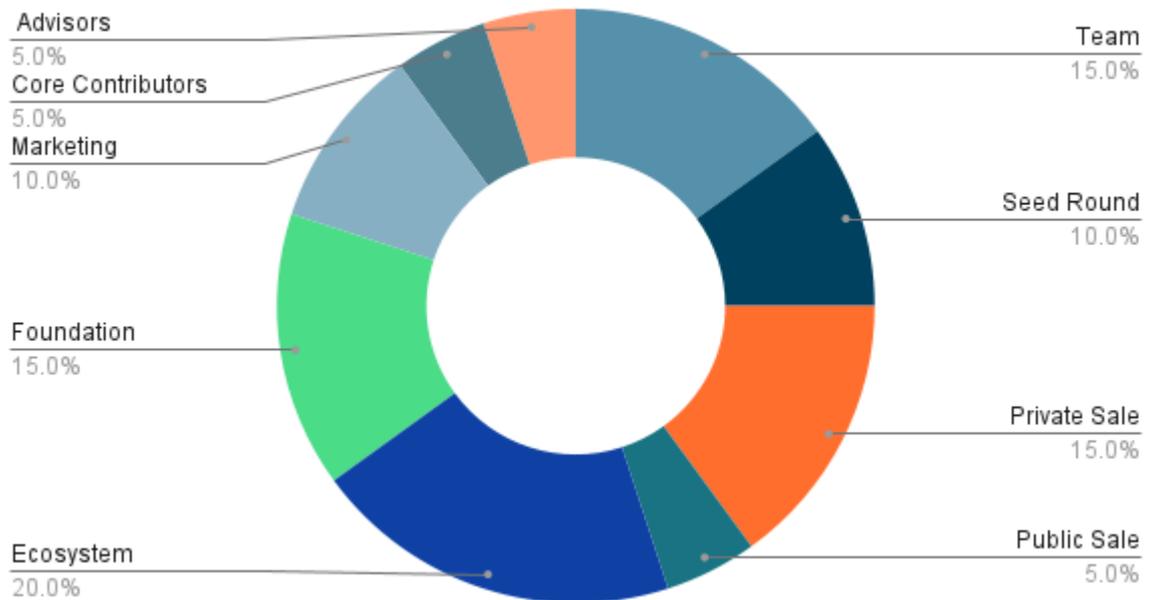
3.1. Token Distribution:

3.1.1. Public Sale (Seed, Private, Public):

Seed Round: 10% of the total supply (100,000,000 MDC) allocated for early backers, strategic partners, and accredited investors. Locked for a vesting period to prevent dumping.

Private Sale: 15% of the total supply (150,000,000 MDC) offered to institutional investors and strategic partners at a discounted rate. Tokens subject to lock-up periods to promote long-term commitment.

Public Sale: 5% of the total supply (50,000,000 MDC) available for purchase during the public token sale event. The sale is conducted in multiple rounds with decreasing bonus rates to incentivize early participation.

3.1.2. Foundation Reserve:

15% of the total supply (150,000,000 MDC) is reserved for the project foundation to fund ecosystem development, research, partnerships, and community grants. Tokens are released gradually over several years to ensure responsible use and sustainability.

3.1.3. Advisors and Partnerships:

5% of the total supply (50,000,000 MDC) allocated for advisors, strategic partnerships, and ecosystem development. Tokens are vested over time to align incentives and ensure ongoing support and guidance.

MyDataCoin

3.1.4.   Marketing and Community Building:

10% of the total supply (100,000,000 MDC) is dedicated to marketing campaigns, community building, and user acquisition. Tokens are utilized for airdrops, bounty programs, referral rewards, and other promotional activities to drive awareness and adoption.

3.1.5.   Core Contributors and Team:

20% of the total supply (200,000,000 MDC) allocated to the core development team, including founders, developers, and key contributors. Tokens are subject to vesting schedules to incentivize long-term commitment and project success.

3.1.6.   Ecosystem Incentives and Rewards:

20% of the total supply (250,000,000 MDC) allocated for staking rewards, liquidity incentives, governance participation, and ecosystem growth initiatives. These tokens are distributed over time to incentivize active participation and network security.

3.2.   Vesting Schedules:

Initial Distribution Unlock Schedule
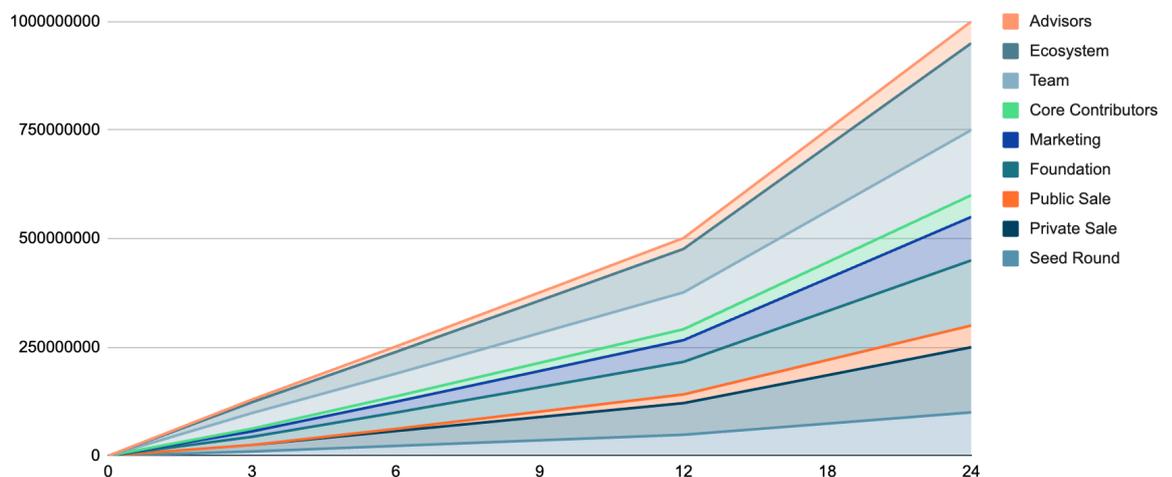
3.2.1.   Project Team:

Team members receive their tokens over a two-year period with vesting.

Initial unlocking: 24% of tokens are unlocked immediately after the completion of the private sale round to provide initial motivation.

MyDataCoin

Subsequent unlocking: The remaining 76% of tokens are unlocked evenly over the next 24 months. This ensures long-term motivation and commitment from team members.

3.2.2. Investors and Partners:

Participants in private and public sales receive tokens with a two-year vesting period.

Initial unlocking: 20%(seed and private only) of tokens are unlocked immediately after the completion of each sale round. Public sale receive 10% of tokens at 6th month after the public round will be closed. The remaining 90% are unlocked evenly over the next 18 months.

Subsequent unlocking: The remaining 80% of tokens are unlocked evenly over the next 24 months. This allows participants to be involved in the project's success on a long-term basis.

3.2.3. Foundation Reserve:

Tokens from the foundation reserve are unlocked evenly over 24 months after the completion of the public sale. This gradual release prevents potential early-stage dumps and ensures a steady increase in the available token supply.

3.2.4. Marketing and Ecosystem Rewards, Core Contributors, and Advisors:

Tokens allocated for marketing and ecosystem development are unlocked evenly over 24 months after the completion of the public sale. This provides stable funding for marketing campaigns and incentivizes long-term participation in the ecosystem.

3.3. Token Buyback and Burn Mechanism:

3.3.1. Validator Rewards Burning:

As part of the MyDataCoin network, two validators have been established. It is specified that 20% of their received rewards will be subject to token burning. A mechanism has been developed for the automatic burning of half of each validator's rewards upon receipt.

3.3.2. Token Burning for Voting:

A voting mechanism has been implemented where the cost of casting a vote is set at 1 MDC. To vote for any proposal or decision within the

MyDataCoin

network, users are required to spend 1 MDC. All MDC spent on voting will be subject to token burning.

3.3.3. Fund Income Token Burning:

In the event that the price of MDC on the market falls below the private sale price, the fund will initiate a buyback of 10% of its income for the reporting month. The purchased MDC will be immediately burned to support the token price and incentivize investor participation in the project.

3.3.4. Public Reporting:

Regular reports will be published detailing the token burning activities, including the volume of tokens burned, burning mechanisms employed, and the overall impact on token supply. Ensuring transparency and accessibility of information regarding token burning activities for the entire MyDataCoin community.

3.4. Staking Rewards:

3.4.1. Staking Rewards Allocation:

MyDataCoin utilizes PoS for network validation and governance. Rewards come from transaction fees and a portion of newly minted tokens.

3.4.2. Calculation of Staking Rewards:

Rewards depend on staked MDC proportion. **Formula:** (Staker's Staked MDC / Total Staked MDC) * Total Staking Rewards.

3.4.3. Frequency of Reward Distribution:

Rewards distributed periodically based on network parameters.

3.4.4. Variable Annual Percentage Rate (APR):

Stakers earn variable APR:
- 12% in the first year.
- 6% in the second year.
- 3-5% from the third year onwards.

3.4.5. Inflationary Model:

May implement controlled inflation to incentivize participation. E.g., 10% annual inflation for rewards and ecosystem development.

3.4.6. Transparency and Accountability:

Prioritizes transparent rewards distribution. Regular reports on total and individual rewards, staking activities.

MyDataCoin

4.   Revenue Model Flow

The MyDataCoin platform operates on a sustainable and equitable revenue model, ensuring the longevity of our commitment to user empowerment and data privacy. Our revenue streams include:

4.1.   Transaction Commission

MyDataCoin charges a nominal 5% commission on each successful data monetization transaction **from each user**. This commission is applied to transactions facilitated through the platform, providing a fair and transparent compensation structure.

4.2.   Monthly Subscription Model

In addition to transaction commissions, MyDataCoin introduces a monthly subscription model. Users have the option to subscribe for a monthly fee of $2, allowing them to restrict the monetization of their personal data. This subscription enhances user control and ensures a steady revenue stream for the platform.

4.3.   Additional Services for Fee

MyDataCoin offers a suite of advanced data management, analysis, visualization tools, and Customer Data Platform (CDP) services for users seeking enhanced functionalities. These premium services come with additional payment options, allowing users to tailor their experience based on individual needs.

This diversified revenue model enables MyDataCoin to sustain operations, invest in continuous innovation, and deliver value to both users and partner organizations.

5. Partnerships for Chain Development

In our commitment to fostering global data exchange, MyDataCoin is actively seeking strategic partnerships for the launch of national chains in diverse regions. As we expand our presence, we recognize the importance of local insights and adherence to regional regulations. Therefore, we invite potential partners to join us in tailoring solutions through the establishment of country-specific chains, ensuring optimal connectivity and trust within each unique market.

Becoming Local Pioneers:

By collaborating with local partners, MyDataCoin aims to become a pioneer in each country's data management landscape. We believe that understanding and addressing the specific needs and nuances of different regions are paramount to building strong, trusted relationships with users and stakeholders.

Global Bridge Integration:

Partnerships extend beyond national chains, as we invite collaborators to integrate seamlessly with our **"Global Bridge."** This bridge serves as a vital link for international data transactions, breaking down geographical barriers and fostering a unified global data-sharing ecosystem. By connecting to our Global Bridge, partners not only contribute to the advancement of responsible data exchange on a global scale but also benefit from the extensive network and resources that MyDataCoin provides.

Benefits of Partnership:
- *Local Expertise:* Leverage the insights and expertise of local partners to customize solutions that align with regional needs and regulations.
- *Network Expansion:* Join a global network of forward-thinking organizations, contributing to the evolution of secure and transparent data exchange.
- *Innovation Collaboration:* Work closely with MyDataCoin to drive innovation in personal data management, incorporating advanced blockchain technologies.
- *Brand Visibility:* Partners will gain visibility as pioneers in responsible and user-centric data management, enhancing their brand reputation globally.

MyDataCoin invites potential partners to embark on this transformative journey with us. Together, we can establish country-specific chains, connect to the Global Bridge, and redefine the landscape of personal data management on a global scale. Contact us to explore the possibilities and become a key player in the responsible and secure evolution of data exchange in your region and beyond.

6. Conclusion

MyDataCoin presents a transformative vision for the future of personal data exchange. Through its innovative blockchain-based platform, MyDataCoin places control firmly in the hands of individuals, fostering a secure, transparent, and user-centric environment for data transactions. The platform's commitment to compliance with data protection regulations and ethical data practices ensures a responsible approach to data sharing.

MyDataCoin envisions a present where users actively manage and benefit from their personal data without compromising privacy. With a decentralized linking mechanism, the protocol establishes secure connections between data owners and holders, promoting efficient and transparent data exchange.

As the MyDataCoin network continues to evolve, it stands as a beacon for a contemporary data economy characterized by individual empowerment, data sovereignty, and ethical practices. MyDataCoin's impact extends beyond transactions; it marks a paradigm shift in how we perceive, manage, and benefit from personal data in the digital era.