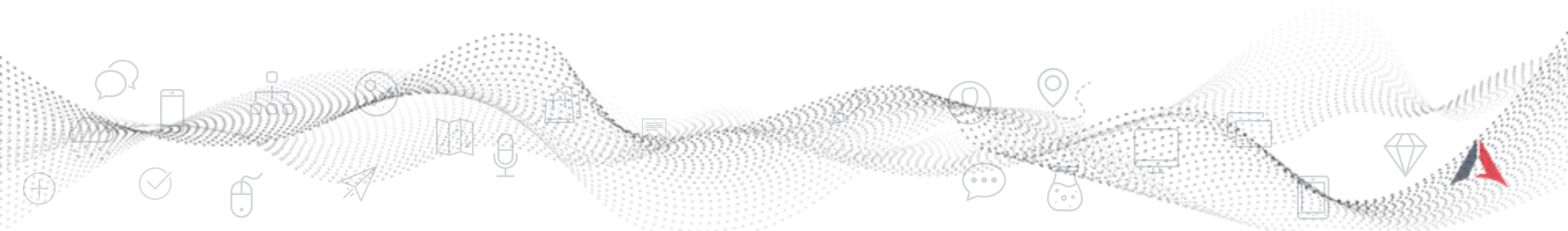
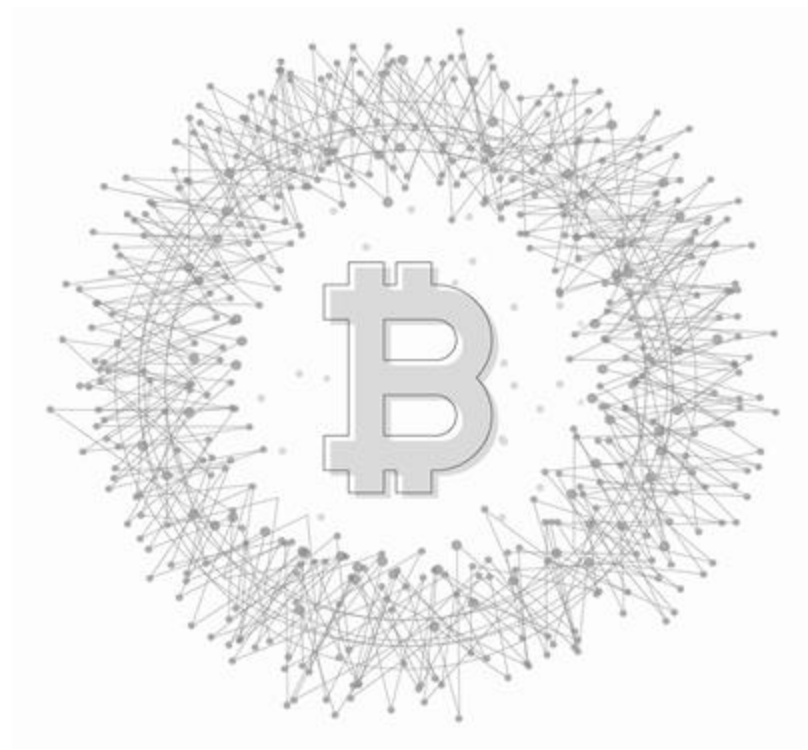




Blockchain Capabilities and Use Cases



Accion **Blockchain** Solution & Services



Design Blockchain Applications

Conduct an in-depth assessment of blockchain use cases, design UI-UX approaches based on business needs



Build Technology Stack

Plan and evaluate technology stack selection, plan custom solution developments, plan for integrations etc, rapid prototyping based on business requirements



Blockchain Operational Network

Engineer an operational model for the users business network



Blockchain Business Value Outcomes

Build a network business model to include appropriate monetization and incentives to stimulate collaboration between members and generate network effects



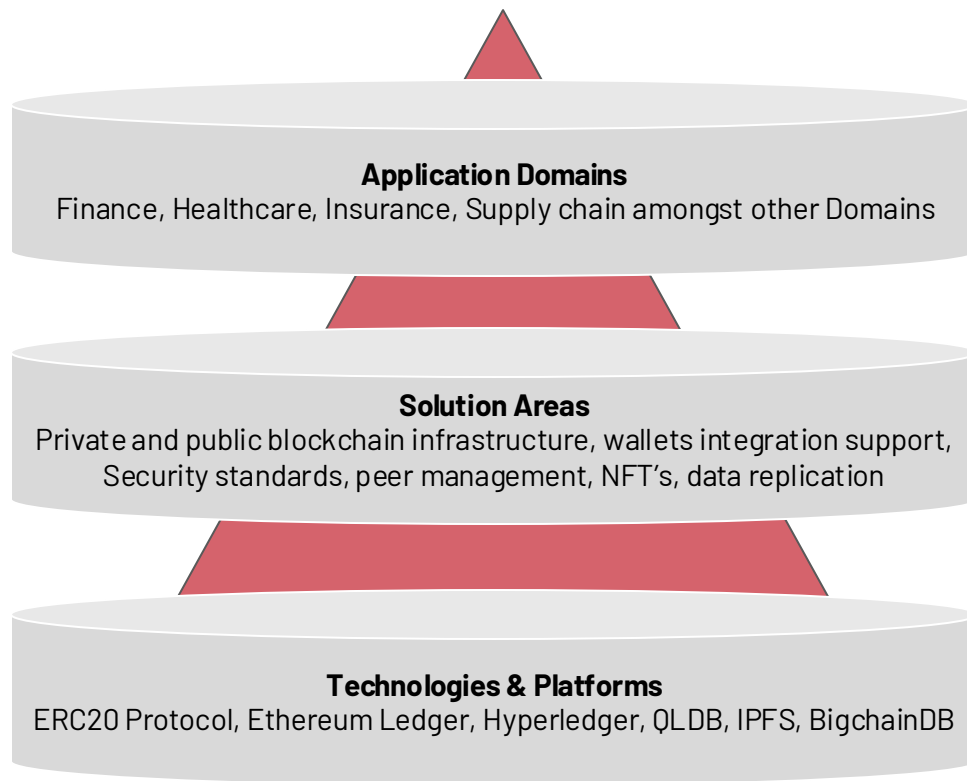
Infrastructure Management

Manage operations of your new blockchain networks and ecosystems using our proven functional expertise



Blockchain and dApps CoE - At a Glance

- Experienced blockchain professionals including backend Engineers, distributed systems engineer, and Ops
- Specialized in delivering cloud/dc based blockchain network
- Experienced in building solutions for cryptocurrency exchange such as cold and hot wallets
- Specialized in building decentralized applications running on top of blockchain



Application Domains

FINANCE

- Cryptocurrency
- Assets holding and exchange
- Audit management

HEALTHCARE

- Critical record management
- Data ownership and security
- Interoperable data exchange

INSURANCE

- Insurance record management
- Claims and dispute management

SUPPLY CHAIN

- Peer/Node management
- Data replication
- Data security



Solution Areas



Infrastructure

Private and public blockchain to meet the needs of end product



Wallets Support

Creation and maintenance of wallets in different protocols.



Security Standards

ERC20 security standards.
CCSS standards.



Peer/Node management

Private/public blockchain network and it's peer management.
Peer communication and data replication.



NFT Implementation

Implementation of ERC721 non fungible token creation



Data replication

Decentralized databases to perform data replication on the fly.



Technologies & Platforms



Programming Languages

GoLang, Python,
Javascript(client-side as well
as NodeJS)



Decentralized File Systems

IPFS



Persistent Data Stores

Maze, BigchainDB, OrbitDB



Protocols

ERC20, ERC721



Blockchain Platforms

Bitcoin, Ethereum,
Hyperledger, Amazon QLDB,
Quorum, Coradno



Blockchain and dApps COE

- Leads the end-to-end product/application development journey of blockchain based projects/customers
- Develops Blockchain-based Proof of Concepts (PoCs) for use cases to understand the potential benefits provided by this emerging technology
- Aims to build capabilities across each of the leading blockchain platforms, initially focusing on Ethereum, Hyperledger etc
- Is a power house of diverse set of talent, hands-on platform requiring different skill sets, coding languages, consensus mechanisms, and more



Shahid Shaikh
Blockchain CoE Lead

Shahid is a software architect and head of Blockchain and dApps COE in Accion Labs. He is actively involved in innovation engineering of products and applications using blockchain and dApp technologies/platforms.



Ashutosh Bijoor
Chief Technology Officer (CTO)

Ashutosh (Ash) has 25+ years of experience in enterprise technology mostly focused around innovation and emerging technologies with customers ranging from startups to Fortune 500 companies in a wide range of industries including healthcare, high tech, engineering, retail, BFSI and many more.

— Accion Maze Framework

A Decentralized Application Framework

- Maze is an award winning decentralized application development framework to build applications that leverage blockchain and decentralized databases without worrying about the underlying technology.
- It is a ready-to-use architectural framework bundled with various distributed application technologies that makes it simple to build secure, fault tolerant distributed applications.
- As an accelerator Maze is built to expedite the implementation of decentralized applications that are not dependent on a single “hosted” server or cloud, but can be deployed as distributed applications across several “nodes”.
- The applications can be used locally at each node with full functionality.
- Maze handles replication of data among the nodes of the distributed application, thereby ensuring that when nodes are connected, data automatically replicates to other nodes, allowing applications to share data across nodes.

How Does Maze Work

- Maze framework makes blockchain and decentralized databases technologies easily accessible for anyone to get started on their development journey.
- Maze provides the data abstraction layer and exposes the REST API's that can be consumed by any entity such as Mobile app, web app, desktop app, etc.
- Maze allows developers to deploy web applications that can use standard Javascript based web or mobile UI with backend APIs written in any language such as NodeJS, Groovy, Go or Python.
- Maze is developed to serve two broad aspects.
 - a. Maze application framework
 - b. Maze nodes

Maze Application Framework

A single interface with different blockchain and decentralized databases.

- Easy to integrate REST API's.
- Simple interface to communicate with the database and blockchain.
- Multiple database stores such as immutable, mutable and key value.
- Peer to peer management.
- Replication management.
- Security and privacy.
- Scalable as per requirement.
- Microservices based architecture for next generation applications.
- Easy to integrate with the legacy systems

Maze Node

A self standing node that can host decentralized applications built using the Maze Application Framework and that can be deployed on traditional web servers (or containers) or on a stand-alone Raspberry Pi based system.

- Wifi Mesh where each node can be used as a Wifi connection
- Decentralized Application Node which contains the Maze framework server
- Decentralized Database Node which provides for storage of data generated locally as well as synchronized from other nodes in the network
- Decentralized Data Synchronization is automated so the data at each node gets replicated to other nodes
- Interface to Sensors that allow event based or polling based data collection and distribution

Accionlabs and Cardano Partnership

- The proposed partnership leverages Accionlabs' technology and resources to help Cardano implement its solutions. This collaboration suggests a combined effort to enhance the Cardano blockchain's capabilities and reach.
- This partnership can lead to increased adoption of the Cardano blockchain. By using Accionlabs' expertise, Cardano can accelerate the development and deployment of new applications and services, attracting more users and developers.
- The collaboration aims to help grow the overall Cardano ecosystem. It can lead to the creation of new tools and infrastructure, making it easier for businesses and individuals to build on and integrate with the Cardano network.
- This partnership is a strategic move by Accionlabs to solidify its position in the blockchain space.

Accion Blockchain Use Cases

- Cardano MCP Server
- Sage - Blockchain for DAO's
- Social Media Platform Powered by Blockchain
- SaaS-based Insurance Platform Powered by Blockchain
- Grammino - Decentralized Messaging & Payment Network
- Cryptocurrency Exchange - Crypto Assets Holdings and Trading Platform
- Borsetta: Asset Tracking using Blockchain
- Supply Chain Tracking



Cardano MCP Server

- Accionlabs implemented a model context protocol server for Cardano blockchain.
- The Cardano MCP Server acts as a bridge, enabling AI tools to interact directly with the Cardano blockchain.
- The server provides a simplified and robust interface for developers to build AI applications that leverage the features of the Cardano blockchain.
- By providing a dedicated server for AI-blockchain communication, Accionlabs is addressing potential performance bottlenecks.
- The Cardano MCP Server is built to provide a secure and reliable connection between AI tools and the blockchain. It adheres to best practices in data security and network integrity, ensuring that all interactions are protected and dependable.

Sage

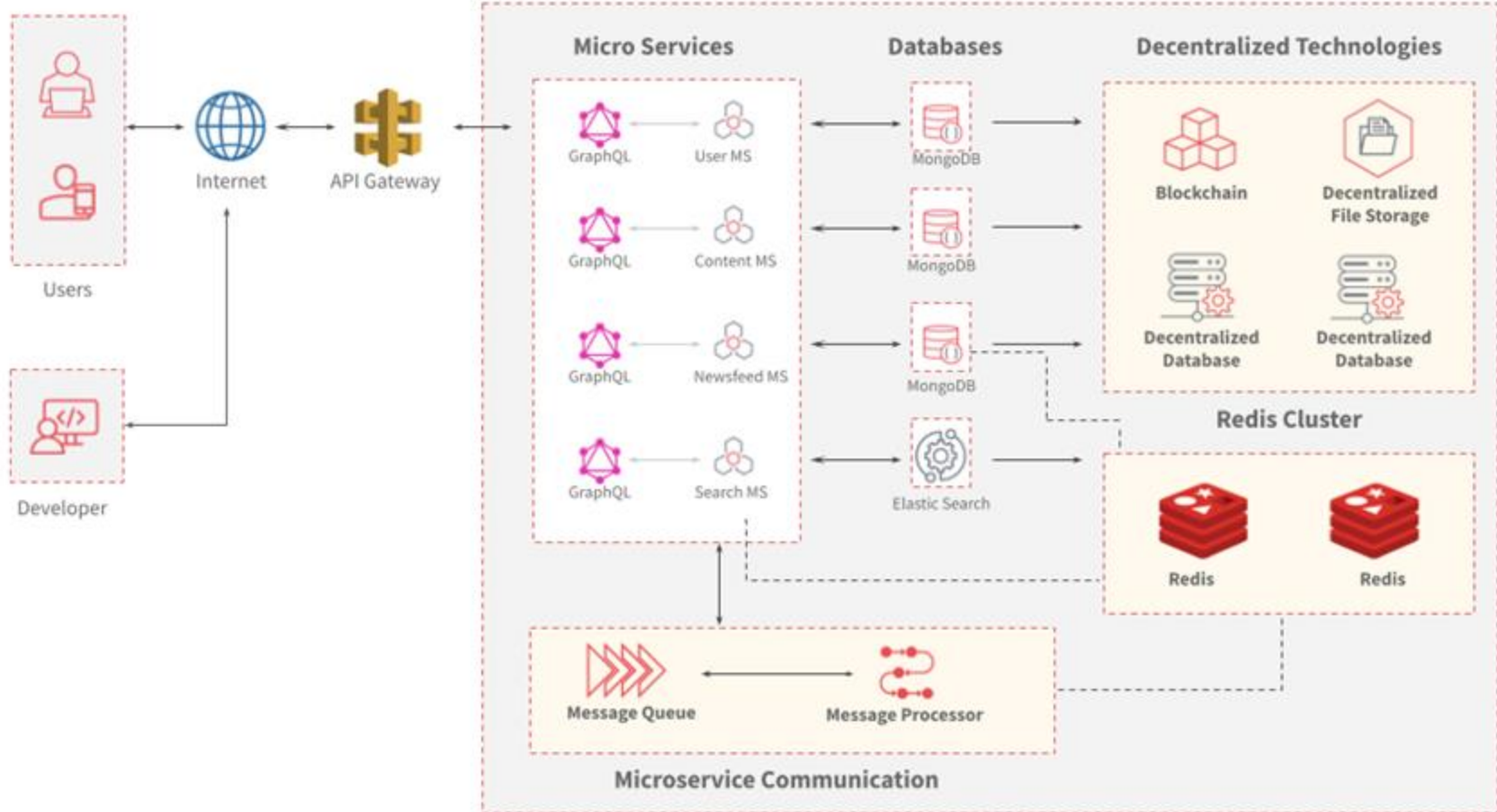
- Sage is a decentralized autonomous organization platform. Sage allows organizations to create and operate their own DAO's within the regulated blockchain network.
- Sage is under development and is one of the first decentralized network to introduce constitution based regulation within the network.
- Sage allows participants to take part in the voting process and alter change laws as the need arises.
- Sage DAO's are independent and operated in an autonomous manner.
- Sage is being built with technologies such as Cosmos, Rust, GoLang, MySQL,etc.

Social Media Platform Powered by Blockchain

- Decentralized application that runs on blockchain network with no single authority/ownership
- Content files such as photos, videos, or audio hosted on decentralized storage networks
- Enable the creation of their own cryptocurrency to drive monetization benefits for users
- Microservices-based architecture for manageable and independent deployable units
- A cluster based solution for read & writes to the database which caters to the need of scalability
- ElasticSearch to provide a seamless experience to the users with the help of suggestions, scoring, and indexing

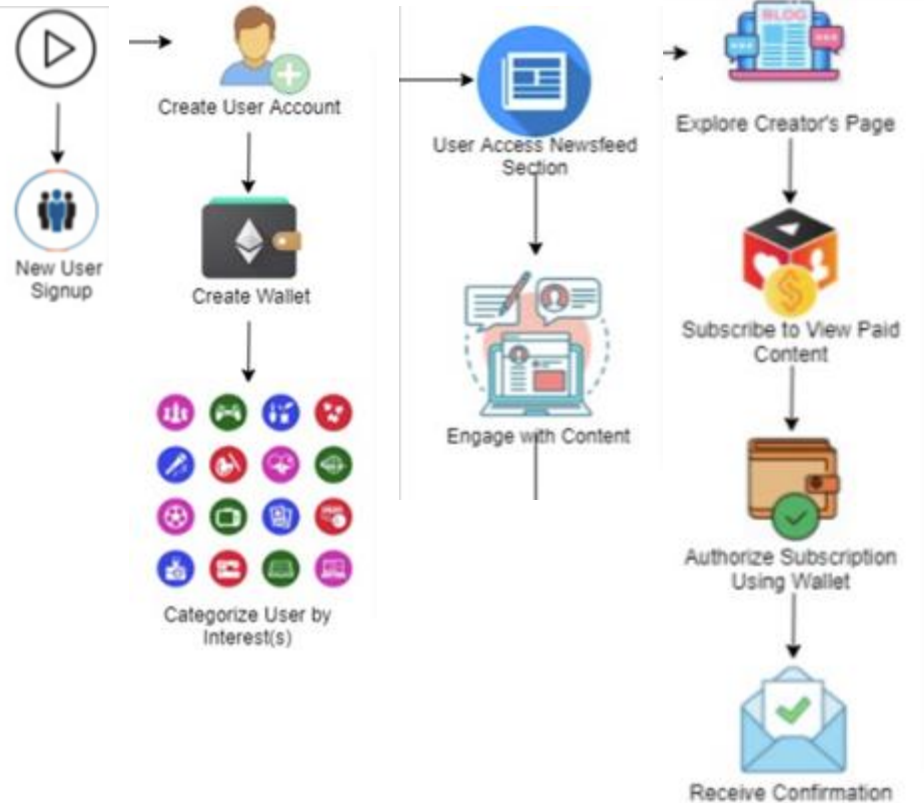


Blockchain Solution Architecture

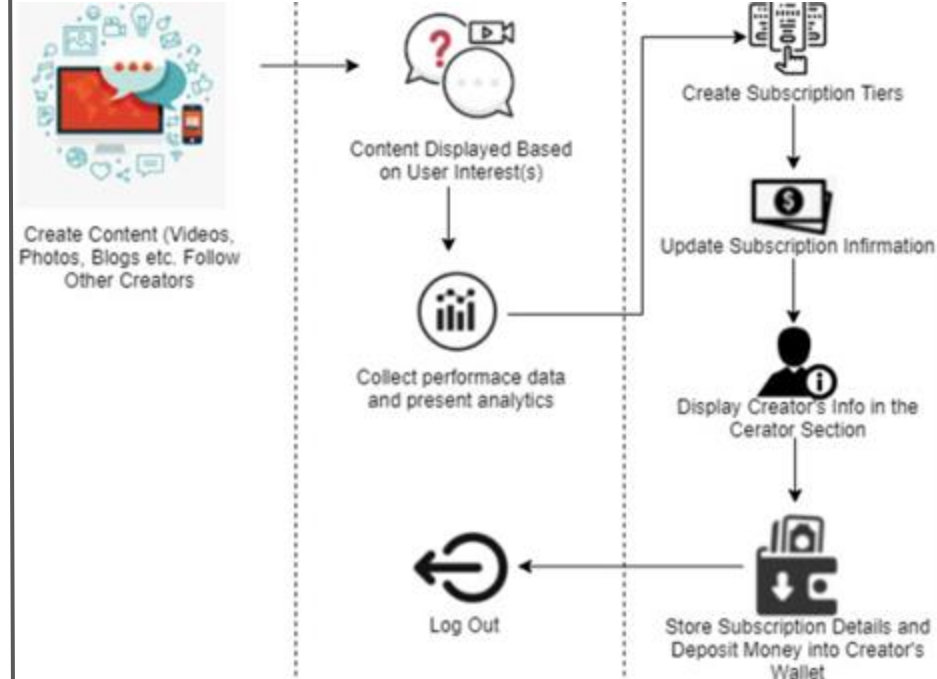


Subscription Model on Blockchain

USER MANAGEMENT



CONTENT MANAGEMENT



SaaS-based Insurance Platform Powered by Blockchain

- Users can purchase and avail insurance policy as monthly/yearly subscriptions
- Engineered a robust blockchain infrastructure to store and manage the insurance policy details of a user in a way that it can't be tempered
- The policy document is digitally signed by users and stored in a decentralized database (offered by Maze).
- Claims information is also stored in a distributed immutable ledger.
- Entire record is tamper proof, leading to reduction of disputes by roughly 30%.



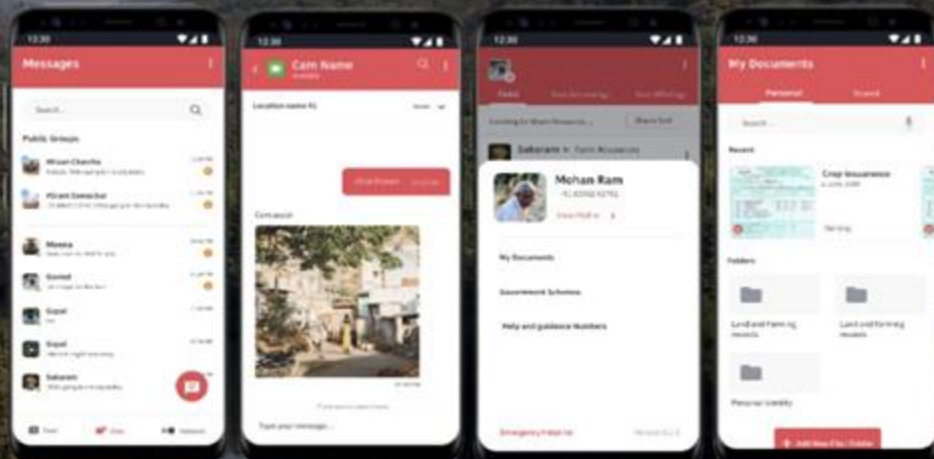
Grammino - Decentralized Messaging & Payment Network

- A rural digital platform – is a decentralized network of self sustainable machines to provide various applications and services to the users living in a remote areas without Internet.
- Secure blockchain based storage of personal records such as land records, legal agreements
- Uses a secure, decentralized fully encrypted storage.
- Provides for P2P communication between human users and between IOT devices.

For example, it allows a village to monitor their water and (solar / wind) energy distribution, with a network of low cost sensors connected to Maze Nodes.

- With the use of permissioned blockchain and decentralized application, system can be build to delegate the data in a manner of permission based systems and security.
- Uses Raspberry Pi to build the decentralized network. Each Raspberry Pi point in the network is called “Node”.
- Each Node provides a Wifi Access point for end users to connect and use the applications in their mobile phones.

Decentralized IoT / Blockchain Platform for Rural Development

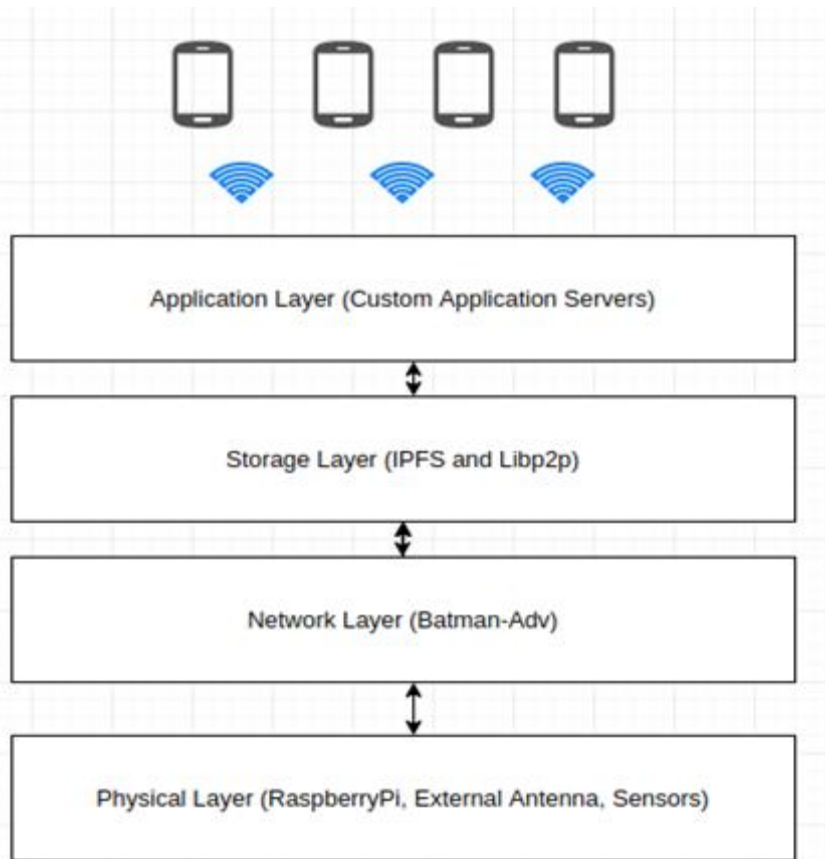


-  Mobility & Wearables
-  Blockchain / Decentralized Apps
-  DevOps & Automation
-  UI / UX Design
-  IoT and Realtime Analytics

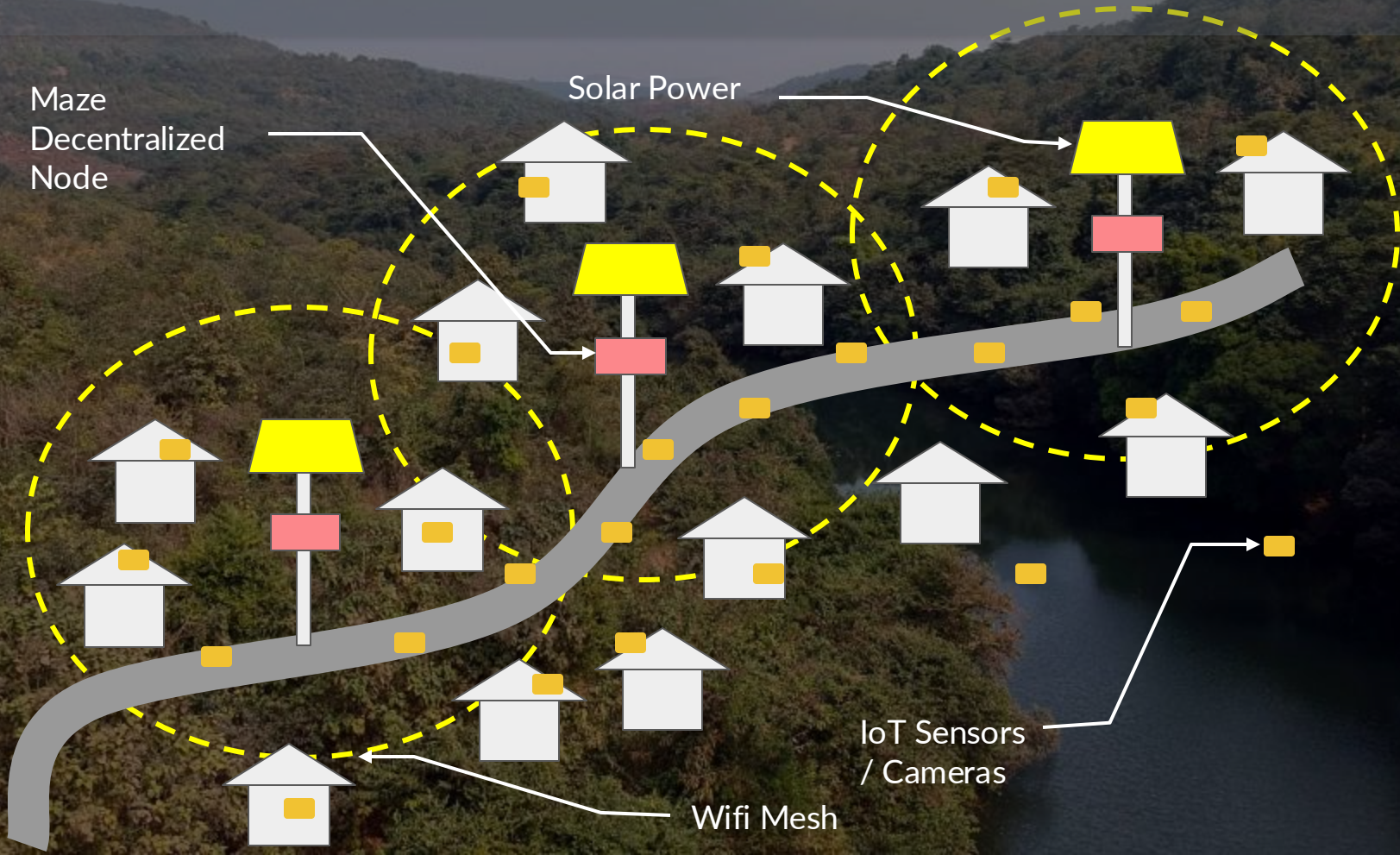
Using a combination of emerging technologies such as IoT, Blockchain and Decentralized Apps, Graminno builds innovative technology solutions for rural development

Grammino - Decentralized Messaging & Payment Network

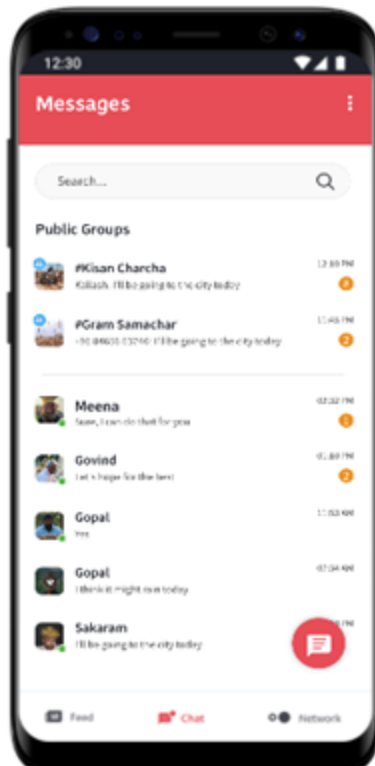
- IPFS (Interplanetary file system) is a peer to peer hypermedia protocol.
- IPFS intend to replace HTTP and support the peer to peer internet.
- IPFS works with the existing network protocol such as TCP/IP and browser protocols to avoid the mass technology shift.
- IPFS uses libp2p to handle network stacks.
- OrbitDB is a serverless, distributed, peer-to-peer database.
- OrbitDB uses IPFS as its data storage and IPFS Pubsub to automatically sync databases with peers.
- OrbitDB uses conflict free replicated data types (CRDT) with eventual consistency to sync the data across all peers.



Maze - Accion's Decentralized Framework



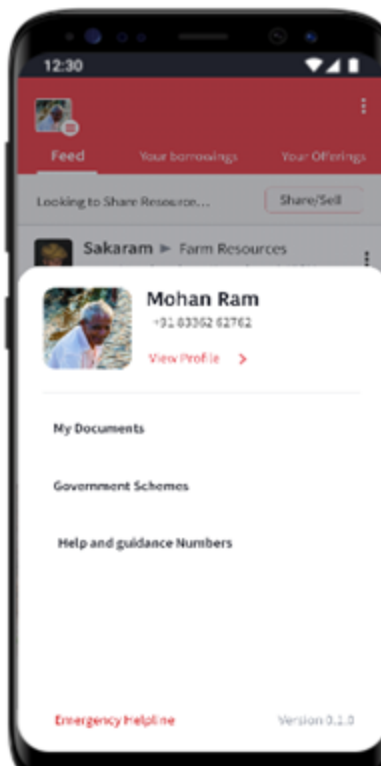
Features



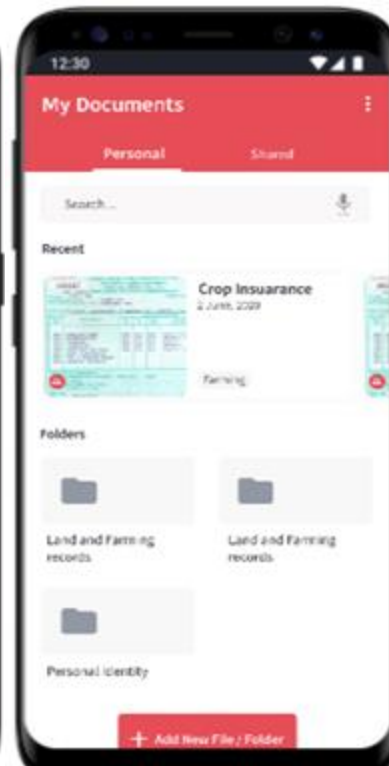
Messages



Camera & Sensor
Chat



Resource Sharing



Document Sharing

Grammino - Decentralized Network for Remote Areas



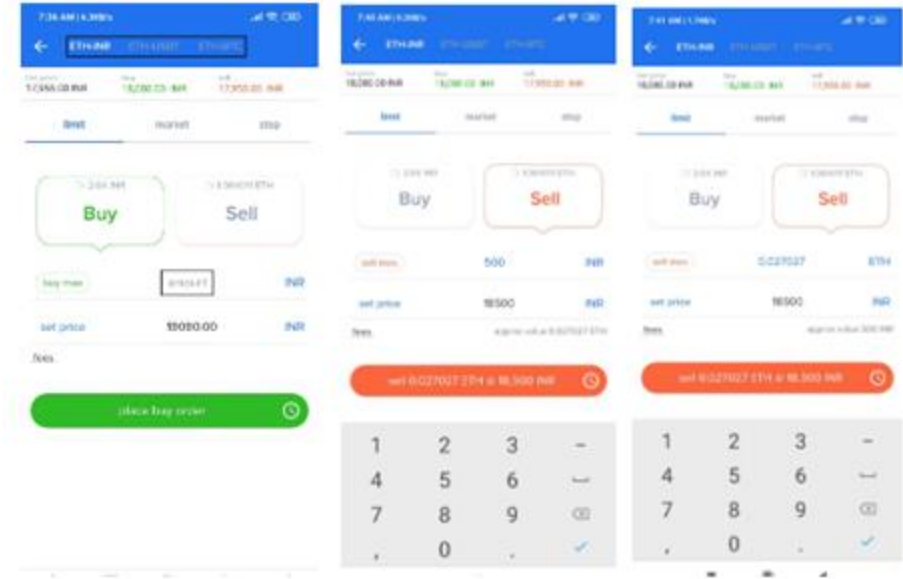


ग्रामीनो
GRAMINNO

A Cryptocurrency Exchange - Crypto Assets Holdings and Trading Platform

Cryptocurrency assets holding and trading Platform to buy and sell crypto asset anywhere, anytime

- A web and mobile interface to buy/sell and store wide range of cryptocurrencies.
- Highly secure cold and hot wallet.
- Highly secure user wallets.
- Personalized dashboard for individual users.
- Cryptocurrency analytics such as graphs, ranges, etc.



Borsetta: Asset Tracking using Blockchain

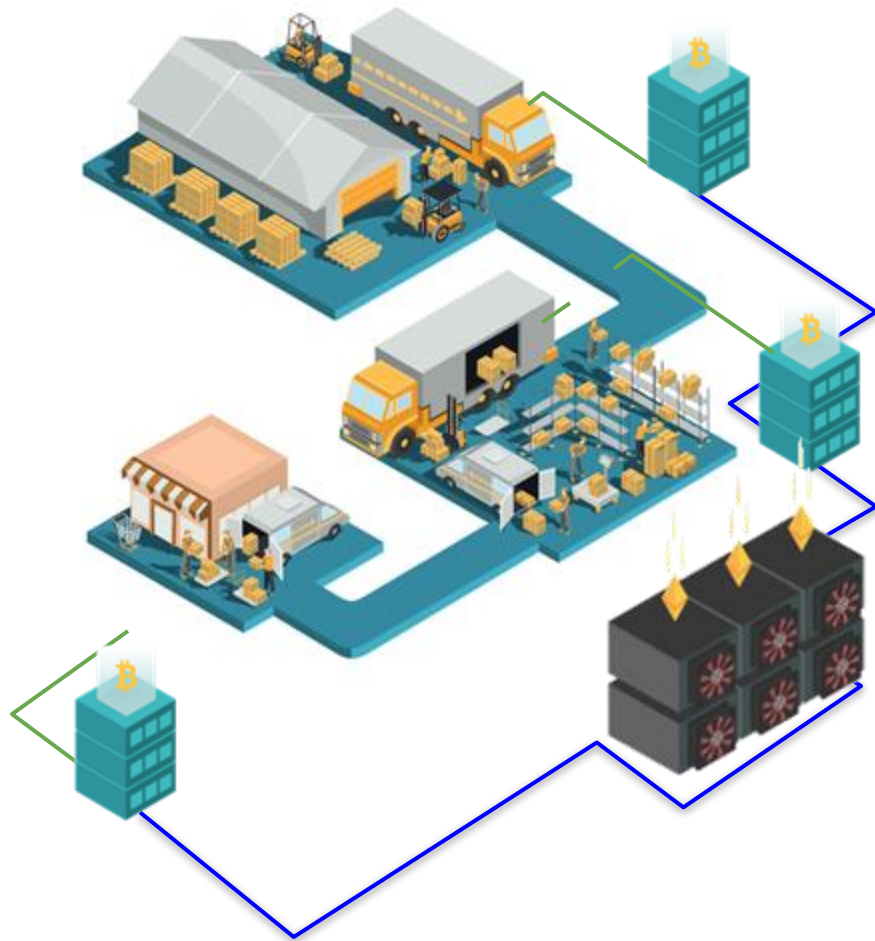
- Blockchain based asset tracking system help track and trace the integrity and confidentiality of the asset all along the supply chain
- It uses the electronic chip as a proof of validity and records the information in the blockchain to ensure a tamper proof asset.
- It aims to ensure that supply chain provides the correct and original asset to the buyer.
- In case of conflict resolution, aims to use blockchain to validate the records and conflict resolution.



Supply Chain Tracking

Tracking of shipping documents and transactions from manufacturers to distribution chain

- All transactions recorded in a read-only permissioned blockchain using Multichain open source platform
- New members allowed to join based on customizable consensus rules
- Role based access control allows manufacturers to view data for all their products only.
- Distributors can view only their own transactions and relevant manufacturers' stock information



Thank you for your time !

We would be happy to demo our
product and case studies with you.

<http://accionlabs.com>

