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Abstract

A next-generation non custodial wallet, self sovereign identity protocol and Web3 infra. provider for the decentralised ecosystem, governed by community

Safle is a decentralised blockchain identity wallet that enables secure private key management and seamless experience for dApps, DeFi and NFTs.

“Buying & Selling, Transferring and Storing crypto should be as hassle free as using a social media platform or email.” Our vision is to create frictionless experiences for users and developers wanting to access and build on decentralised infrastructures. With our Web Application, Browser Extension and Phone Application, retail users are able to enjoy various features with a SafleID account that comes with a fully functional name enabled vault. This helps the retail users to HODL with Safle.

“Building applications on blockchain is a tidy bit difficult, given the limited knowledge of programming languages and frameworks like truffle and ganache. Therefore, it can be cumbersome for normal web developers to build applications that can interface with the blockchain.” SafleNode Web3 Infrastructure along with SafleKeyless allows developers to easily onboard users onto their decentralised applications. SafleNode stack provides auto deploy node services for requesting connections through RPC(Remote Procedure Call) to communicate with the blockchain. Currently, SafleNode provides services for EVM compatible blockchains (Polygon, Binance Smart Chain, Optimism) and plans to further the support on Tezos, Polkadot and prominently used blockchains as per the community demand. This helps the developers ecosystem BUIDL with Safle.

In order to maintain a balance between developers and retail users, we intend to develop wallet infrastructure in a completely non-custodial fashion using Open Governance Mechanisms via the SafleDao coordinated and maintained by the Safle token economy. The native $SAFLE token will not only enable token holders to propose and vote on changes (governance privileges) to functionalities and feature sets of the wallet and node services, but will also create a self-sustaining token economic model where value will be generated by providing access to finance and identity in the decentralised digital world.
Introduction

As humans evolve, other human assistive technologies such as the internet, smart devices and robotics evolve with them, increasing the demand to be connected via the World Wide Web. The internet that we have today took several decades to mature to its current stage, enabling us to inhabit the digital world. It has proven to be one of the most transformative and fast-growing technologies. As of January 2021, over 4.66 billion (59.5% of world population) people use and access the internet actively, making us as a society more informed, connected and advanced than ever before.

The World Wide Web has democratised power structures and created new opportunities, but the technical and economic structure on the backend remains heavily privatised and centralised. Even though mass adoption of the internet is evident through the past decade, ‘user data’ security remains to be a major issue. For example, the social networking sites we use, emails we send, access to online banking, or any other user “identity sensitive” transactions take place on centralised networks. There is an unfathomable amount of data floating on these networks that are privately controlled by tech giants like Facebook, Amazon, and Google acting as the biggest custodians. We trust the servers of big tech giants to keep our passwords and data safe, but in reality it's no secret that they too are prone to hacks and malicious activities. In the digital world, data has become the new oil and data aggregators are oil mines that everyone wants to take control of. In simpler words, our digital identity and other digital assets we store on the World Wide Web relies on trust in private third-parties that time and again break this trust for their own agendas without our consent or knowledge. We can use the recent case of Chinese loan apps stealing user KYC details to set up fake bank accounts as an example, unfortunately cases of user data theft are becoming more common and a regular occurrence on the internet.

The backend revolution that intends to reinvent the inadequacies in the internet by decentralising data storage and computation abilities roughly captures the still evolving Web3 landscape. Edge computing, decentralised data networks and artificial intelligence are the three new layers of technological innovation that drives the “new” internet (Web 3). Early example of adoption of distributed computing being run on a decentralized back end or the “new” internet was witnessed in the financial sector with the introduction of the cryptocurrency Bitcoin in 2008, an open source experiment timed perfectly to serve as an antithesis of a monetary system that led to the U.S. mortgage loan-induced 2008 meltdown and caused bitcoin’s creator, Satoshi Nakamoto, to embed the Times of London headline “Chancellor on brink of second bailout for banks” into Bitcoin’s genesis block.

The advent of blockchain technology that was used to serve as the public transaction ledger for Bitcoin gave people a glimpse of a truly decentralised peer-to-peer network. The result: a user centric & data preserving computing fabric for the next wave of the internet that is Web3.

It is easy to envision a not too distant future wherein the majority of phone applications, personal data storage, gaming economies, social networking platforms, and financial systems will be running atop Web3 backend infra or the new internet. Just as one needs to have an email account to sign up on any traditional social networking platform, similarly all one needs is a wallet to create an account to interact on or access blockchain based networks. These wallets consist of public and private key pairs, with the public key being like an email address and the private key its password. The wallets on blockchain networks serve as a user’s digital identity and unlike a Facebook or Twitter account, are
censorship resistant and can be programmed to be interoperable on different blockchain networks allowing portability and self-sovereignty of digital identities.

The development of dApps (decentralised applications) rely heavily on Web3 wallet software services to onboard and manage user interactions on their platforms. There are two types of wallets; custodial wallets and non-custodial wallets. The custody of wallet private key management systems differentiates the two. The wallets store private and public key pairs that authenticate a user to sign transactions on dApps. In a custodial wallet, the private keys are stored and managed by centralised wallet service providers, fundamentally contradicting the ethos of a truly ‘decentralised’ network. Whereas, non-custodial wallets give its users full ownership of their private keys and control over their digital data and assets, making the wallet a user’s self sovereign identity (SSI).

Open governance is considered to be at the heart of a successful Web3 project since it puts the power and trajectory of the project in the hands of the community members and not a centralised entity. Hence a DAO (decentralised autonomous organization) is essentially an experiment to build an organization from first principles, focusing on Web3 values like openness, decentralization, and permissionlessness, this organizational structure introduces a brand new way of working that could prove to be way better than the structure of a traditional company. Amongst other differences, the most obvious is DAOs have their rules immutably embedded on-chain, unlike traditional companies that have their rules live in centralized systems like the bylaws of a corporation stored in a municipality’s file cabinet. This allows DAO members to vote on how the treasury manages expenditure over the lifetime of the project and propose necessary changes that can be accepted or declined via a fair voting system that understands no prejudice or segregation. Open governance in Web3 is ultimately an automated process running on smart contract enabled protocols that serves no centralised agenda. In its essence, making the project for the community, by the community.

Safle is a next-generation non custodial wallet provider, self sovereign identity protocol and Web3 infra. provider for the decentralised ecosystem, governed by community. Let’s dig deeper into the Safle technology stack and understand how we try to make the world of blockchains more accessible for all.

Non-Custodial Wallets, Self Sovereign Identity Protocol and Web3 Infra with a built in Open Governance Framework

Safle has created a set of tools for developers and retail end users that provide private, non custodial open governance protocols to manage their self sovereign identity based wallets, and a complete suite for running and managing web services needed to connect to fully synced blockchain nodes. Safle technology stack was built envisioning the challenges in current mainstream mass adoption of cryptocurrencies and of applications built on top of blockchain. The Stack empowers the community to make independent decisions and have power over their digital assets. The current Safle technology stack as well as the envisioned solution offerings for future use cases are built on two main pillars:
SafleVault is a private key management infrastructure designed keeping availability, flexibility and security as its foundational pillars. Safle Vault uses six layers of encryption to secure the vault. The vault stores the private keys of the user wallets which contains all assets owned by the user. Every private key is generated using a single seed.

SafleID enables user onboarding and Lifecycle Management software plugins to facilitate wallet/SafleID resolution. SafleID wallet is built using EVM compatible smart contracts functional on blockchains like Ethereum, Polygon, Binance Smart Chain etc. As a smart contract wallet, SafleID offers features like multisig, time-locks, daily limits, trusted contacts, and seedless recovery.

SafleID comes with an onchain identity i.e. stored and managed on EVM compatible blockchains (Polygon as default) using smart contract functionality. The identity is typically an alphanumeric phrase from 5-14 characters. However the SafleID has the power to use name based crypto transfers, and can basically resolve to one’s name on the blockchain. For example, 0xd94599d1267ac3a2df1e4e3b0ef4ff1a356dd292 turns to “yourname” and can be used to store not just Ethereum but all major coins as the wallet uses SafleVault, which derives all wallets using the same seed phrase. [Using conventions as stated in BIP44]. SafleID contains a smart contract based wallet that can engage with other smart contract based accounts on Ethereum blockchain, Polygon (Matic Network) and Binance Smart Chain. The accounts ported do not take along their previous data stored on the blockchain to the new ported chain but only create a new identity wallet for transactions that belong to that specific network. Similarly, those SafleIDs can be sold or auctioned for multiple accounts that exist on different chains.

The SafleID gives you access to a non-custodial wallet to store, transfer & trade all your digital assets across different blockchains & protocols. The SafleID also provides an integrated identity mechanism to the users which can be used to assert self-sovereign identity across all kinds of blockchain applications. Thus, interoperable multi-chain blockchain identity with on-chain reputation can be created via registering and syncing on-chain data.

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phrase which encrypts the vault. The vault can be deployed as per user’s convenience either on the cloud or on the user’s device (desktop or mobile) and can be retrieved using password/biometrics. Safle Vault can manage private keys of all digital assets compatible with BIP44 with the same level of encryption.

SafleVault can be deployed and managed seamlessly across devices

**On the cloud**
where keys are encrypted using multi layer encryption and can only be decrypted on the client side using user credentials, thus being totally opaque to any cloud system.

**On user’s mobile device**
where keys are stored in a virtual hardware security module specifically designed for advanced users who understand key custody.

**On user’s browser**
where keys are stored in the user’s system using the same 6 layer encryption methods accessible only to a natively built browser extension thus giving users total control over their keys, thus their assets.
SafleKeyless

SafleKeyless is a tool which enables users to sign transactions inside any decentralised application which is integrated with SafleKeyless. It is offered to dApps via an easy to integrate SDK which can be used by the Safle users to connect their Safle wallet with the dApp thus allowing them to sign transactions, assert identity without hopping screens or installing any extra software.

SafleKeyless is flexible and can be used with cloud based wallets, mobile wallets. In the case of cloud based wallets the user can sign transactions by just their SafleID and password. This is highly secure in nature and keeps the funds opaque from the dApps and just sends signed transactions.

SafleKeyless uses SafleVault to manage wallets and private keys thus giving it the ability to secure digital assets with the same 6 layer encryption.

The flexibility to transact and sign on the go which in a decentralised world as it is being currently envisioned, will be a frequent necessity. Keeping keys on the cloud mitigates the onboarding friction for first time crypto users and buyers entering the highly jargonised crypto ecosystem.
# Competitive Landscape

<table>
<thead>
<tr>
<th>Features</th>
<th>Safle</th>
<th>Trust Wallet</th>
<th>Torus</th>
<th>BitGo</th>
<th>Fortmatic</th>
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<td>Flexible Key Management</td>
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<td>Multi Coin Wallets</td>
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<td>Buy/Sell Cryptos</td>
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<td>Wallet Widget</td>
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</table>
Safle ecosystem doesn’t only cater to the end user but also provides tools to the developers to build better and with minimal friction using multiple SDK, infrastructure and APIs.

Developers can use SafleKeyless as a wallet provider in their dApps by just integrating it with minimal code.

With wallets,

Open APIs are also made available to the developers for real time blockchain and cryptocurrency data which can be used for price indicators, block information, chain analytics etc.

All these services are available by a state of art dashboard available on the Safle developer’s app. All paid services consume $SAFLE as a mode of payment.

<table>
<thead>
<tr>
<th>Web3 Comparison</th>
<th>Name</th>
<th>Infura</th>
<th>BlockDaemon</th>
<th>Etherscan</th>
<th>Skale</th>
<th>Ankr</th>
<th>Blockchain.info</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPC Nodes Deployment</td>
<td>Safle</td>
<td>✓</td>
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<td></td>
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<td>Validator Node Deployment</td>
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<td>RPC API</td>
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<td>Free Tier</td>
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</tbody>
</table>

SafleSwaps

Enables single transaction swaps inside the SafleID wallet, the user just selects swap pairs and easily swap between tokens. We use an aggregator model powered with smart contracts to provide high liquidity and minimal fees on the
swaps using AMM pools such as Uniswap, Sushiswap and Kyber Network. The user is always in control of their own assets and the swap is initialised and the assets are received in the SafleID wallet itself.

No need to hop transactions/screens to use dApps. We have a complete SDK to enable swapping between tokens i.e. 100% onchain. SafleSwaps supports all major tokens on the Ethereum blockchain, and the list keeps growing and soon will allow swaps on Matic and Binance Smart Chain.

Stake & Farm via Safle

Allows users of Safle wallet to interact with multiple staking services through which they can directly stake their digital assets and earn yields directly in their wallets.

Staking will diversify with DeFi protocols and other tokens will come into play where users will be able to stake tokens and earn a better APY.

Staking with DeFi comes with inherent risks, including hacking, volatility, liquidation, poor smart contracts and exit scams.

Beyond those risks, even if you found a reputable, secure program for earning a yield, these aren’t accessible to the average investor due to:

**Cost**

Yield farming’s transaction costs are often so high that earning a yield is uneconomical unless you have at least $10,000 to invest.

**Technical knowledge**

To mitigate your risk, you need an understanding of smart contracts, non-custodial wallets, farming procedures and how to perform due diligence.

**Time**

To get the highest return, you need to manage multiple platforms, research new pools and trading platforms and monitor protocols around the clock.
$SAFLE staking will mitigate these risks by directly allowing a user to stake their crypto from their non-custodial wallet in a click, thus earning a high yield with low risk.

Staking via Safle will also reward users with $SAFLE.

**SafleSmartPay**

Crypto payments are considered to be the holy grail of the entire crypto ecosystem. From the time Bitcoin came into existence this has been a use case which is being propelled and never been substantially executed.

SafleSmartPay will allow merchants to onboard the Safle ecosystem and enable them with merchant wallets, which would let them:

1. **Accept payments in crypto currency:** They will be able to use Safle infra to accept any crypto as payment for the goods and services.

2. **Auto swapping:** Merchants would be able to configure the inflow currency, which they could decide to be fiat or any specific crypto currency.

3. **Master-child wallets:** Merchants will be able to create multiple child wallets from their master wallet.

All these features will be available to the merchants via SDKs, tools to integrate with their websites. Mobile wallets, to be used to manage everything and POS machines.

**SafleID - A SSI Protocol for Identity Assertion**

Using SafleID, a blockchain based Self Sovereign Identity (SSI), can provide a plethora of benefits such as, recording/sharing credibility, longevity and other important profile metrics based on the historical transactional record of the identity/account owner.

Anyone will be able to associate their onchain credentials with their SafleID and those credentials could be accessed using SafleID by any third party in a transparent and verifiable way. SafleID will be used to build an onchain identity by providing a credential repository. A few use cases for such a system would be:
Financial Sector

Referencing past onchain activity of SafleID users by tracking their DeFi transactions (lending, borrowing, liquidity provisions etc.), so that they can use it as a repository of their past behaviour in different Financial Markets. This could enable better decision making processes for money market protocols for eg. provide lending rates as per the historical behaviour of the user.

Gaming Sector

Onchain Gaming is the next thing which is going to drive crypto markets, already gaming is one of the highest gas guzzlers on Ethereum network.

Enabling Safle users to earn and aggregate gaming creds from onchain games which can establish the credibility of the player using the SafleID stack/wallet thus helping them to advance in gaming dApps using their creds.

Gig Sector

Management, Assertion and Endorsement of credentials are the most important part of a gig economy. SafleID will enable users to aggregate their on-chain work and education credentials which will be totally immutable and auditable in real time.

Open Governance Framework

Governance tokens confer holders the power to influence decisions concerning the core protocol, set of parameters, codes, smart contracts, product or feature roadmap, and any other changes to governance in the token’s ecosystem.

SafleDAO

A governance mechanism which allows $SAFLE holders to propose changes and steer the Safle ecosystem by creating proposals which can be voted upon by $SAFLE holders. The initial design of DAO will be created by the founding team which then is also governed by the DAO itself, thus democratising not just the ecosystem but the propellent force itself.
Users of the Safle wallet, in keeping with the ethos of open governance frameworks, will have a vote in the Safle governance. Every user at the time of on boarding will be given some $SAFLE to enable giving them a say in the SafleDAO as they are the ones holding a direct vested interest in the future of the Safle ecosystem.

Also, all the developers building on Safle, that means all dApps registered in the Safle Developers ecosystem will also be granted $SAFLE as reward for taking part in the governance.

As $SAFLE is a governance and a multiutility token, it is a non-yield generating token, that means the token itself doesn’t accrue any value by the protocol. The only way users can earn yield via the token is to stake it in the staking pool which earns an APY to the users.

**Multi-utility features of $SAFLE**

Safle allows users to store cryptos and at the same time lets users to transact, secure, buy and swap cryptocurrencies in their SafleID wallets.

Apart from the basics, there are multiple utilities where $SAFLE can either be used as a method of payment or as a staking token which enables users to use utilities till the time tokens are staked.

$SAFLE is primarily a governance token which will be used as 1-1 voting stake in the Decentralised Autonomous Organisation (DAO) governing, regulating and progressing the entire Safle ecosystem.

The Safle ecosystem enables users with power tools to access and use blockchain and crypto applications. All the basic tools are and always be free for users, but there are features which come at a cost as they are more advanced in nature and integrated with other ecosystems where the Safle ecosystem needs to pay. Some of the features are:

- Porting to other blockchain like ethereum, bsc will require the user to pay a one time fee in Safle.
- Auctioning of SafleIDs will incur an auctioning fee.
- Mapping to ENS or other domain services
- Smart wallets, private transactions, multisig wallets will come at a cost.
- Guardian will need staking of $SAFLE
Developers will need to stake $SAFLE to be able to use advanced plans.

Developers will need to pay $SAFLE as per their use of Safle infrastructure and services.

Users can pay in $SAFLE to make onchain transactions.

These are just a set of few that have been mentioned to make users understand the utility of $SAFLE. Everything which will be integrated or built in the Safle ecosystem will be paid for in $SAFLE only.

**Staking Rewards**

$SAFLE being a governance and multi-utility token also rewards hodlers for staking $SAFLE in the staking pool. This service will be enabled by a set of staking contracts on ethereum network allowing hodlers to stake their $SAFLE in the smart contracts and which will generate them a percentage yield on the amount staked.

Apart from being a reward and hodling mechanism, this also balances token demand and supply. The number of tokens distributed as rewards will always be proportional to the number of tokens staked and the current circulating supply.

A total of 200,000,000 $SAFLE is being allocated to staking rewards which are perpetual in nature.
$SAFLE Economy Design

$SAFLE Demand & Supply

X% of $SAFLE will be distributed at TGE (token generation event). This initial supply will constitute of:

Towards Fund Raise -
- Partial withdrawal of the total allocation of seed and private investors.
- Partial withdrawal of strategic allocation
- Public sale tokens

Towards Community and Adoption -
- Community rewards for early supporters and adopters.
- Staking Rewards

Towards Ecosystem Growth and Technology Development -
- Research and development grants

After TGE (token generation event), supply is majorly directly proportional to the demand of $SAFLE. Demand of Safle is driven by:
For every $SAFLE paid to avail a service in the Safle ecosystem, some part of it will be used to replenish the community and staking pools so that the SafleDAO has a continuous stream of inflows to keep awarding new users with voting privileges in the $SAFLE ecosystem.

New users post onboarding the Safle ecosystem will need to pay for premium services with $SAFLE (demand side). Additionally, every new user onboarding will be given X% of $SAFLE (new circulating supply) to enable them having a say in the SafleDAO.

$SAFLE has a staking rewards pool which controls the majority of future supply, when a user stakes $SAFLE in the staking pool, they earn $SAFLE as rewards thus pegging the increase in supply to the commitment/adoptions of the Safle technology stack.

Marketing & Ecosystem Allocations: This is totally pegged to the growth and every single $SAFLE withdrawn from these allocations will have to go through governance thus keeping the ecosystem democratised and highly transparent.

Every month, the initial early stage adopters will be released $SAFLE (new circulating supply) with a perpetual linear vesting schedule.
Now & Beyond

SSAFLE holders will enjoy governance power to choose the directional growth of the ecosystem. Influential power in a decentralised economy is a popular new age capital asset in the envisioned crypto and decentralised world.

2019

Plan

- Planting the seed of a self sovereign identity based digital asset vault.
- Project Planning and architecture.
- Hiring & Staffing for tech.
- Planting the seed of a seamless decentralised experience using SafleID.

2020

Build

- Laying the foundation of a non custodial open source wallet and web3 infrastructure.
- Understanding the difficulties of open authentication and preserving the DID ethos while building the first version of SafleID Wallets.
- Ran Ethereum technical workshops in over 60 universities targeting computer science engineers.
- Created SDK and packages on node package managers to be used by other dApp developers to integrate SafleID Wallets.

2021

Voyage

- SafleID smart contract deployed on Ethereum and Matic mainnet.
- Closed beta launch for community members and early adopters.
- Browser extension and mobile application launch with a completely new web dashboard.
- Seamless cross device experience to enter in the world of dApps, Defi and NFTs over multiple blockchains with a completely portable SafleID.

2022

Conquer

- Enabling smart payments for the M2M economy with proxy smart contracts helping users to manage their smart devices.
- Using SSI protocol to build onchain identities for the gig economy, gaming sector, financial services
- Migrating entire backend onto decentralised networks, rather than current private environments like AWS, IBM.
- Stake & Farm via Safle will enable users to stake tokens and earn better APY on a diverse range of DeFi staking protocols
The founder team behind the Safle tech stack endeavoured to address the following market gaps while formulating its philosophy & developing solutions.

**Complex Custody & Hack Prone**

Since the inception of Bitcoin and cryptocurrencies, there has been heavy reliance on privately controlled exchanges and wallets. These wallets are maintained on centralised servers that are prone to attacks resulting in loss of highly valuable assets. With the advent of decentralised exchanges and liquidity pools, crypto users have found ways to engage in a peer to peer decentralised manner for swapping of assets, making centralised exchanges the secondary choice.

**Many Assets Many Keys**

Wallets are the only way to store and manage cryptocurrencies. Wallets are complex and have to keep evolving due to innovations in private key management, and or other application updates of the underlying protocol on which they are built eg. innovations in Bitcoin Protocol would need the users to enable segwit based wallets to receive transactions from a segwit enabled wallet.

Given the increase in interest and activity in different cryptocurrencies, a user often gets caught up in the tedious cycle of generating and managing multiple wallets for their diverse portfolios, which can be an intricate task altogether.
Lack of Interoperable Identity on Multiple Blockchains

As the use cases of blockchains are growing, the fight to be the best blockchain also keeps taking new dimensions. Like Lego, every dApp can be combined with one another. While DeFi is blockchain agnostic, majority of the projects today are built on Ethereum blockchain, making it the standard for many dApps. However, due to scalability issues there are many competing alternatives which are proving to be credible challengers to the Ethereum blockchain.

Computer scientists and engineers are looking at ‘greener’ alternatives to create new blockchain protocols. Given the prospect of multiple blockchains, interoperability protocols that help to bridge relevant data and communications from one chain to the other are coming into existence. In the legacy world, this is similar to a Payee’s bank sending a request to check the balance of the Payer’s account, before confirming the transaction. As an example, the Bitcoin blockchain has no record of transactions carried out on the Ethereum blockchain; hence the requisite framework and interoperability protocols are needed to enable cross-chain transactions.

Identities based on Ethereum work only for dApps built on top of Ethereum network and are exclusive to its native ecosystem. The incommodious process of maintaining different unique identities to operate on their respective blockchain networks also contributes to low rate of adoption of blockchain applications. As more blockchain networks like Cardano, Binance, Solana, Tron, Tezos and Elrond start being utilised in the ecosystem, it also creates a demand for an interoperable multichain identity service.

Blockchain based Self Sovereign Identity (SSI), for example the Safle ID can provide a plethora of benefits such as, recording/sharing credibility, longevity and other important profile metrics based on the historical transactional record of the identity/account owner. In the near future, the financial, social, educational and vocational profile/identity can be used to moderate interest rates, privileges and incentives while using dApps, that will be able to rely on on-chain identity reputations such as the field of financial services, education, experience and skills.
Need for Identities for Machines

Wallets not only represent blockchain based identity of human beings but also assign a unique identity to smart devices. Smart devices are already in use today, for example; smart cards in cars pay for road toll taxes and smart TV pays for monthly subscriptions on OTT platforms. With blockchain technology, all this will undergo an enhancement. User’s smart meter, smart television and smart fridge will be capable of ordering goods and services from the online merchant stores making payments from preassigned wallets. The wallets can be programmed to set a daily limit and these payments will be handled via device smart key management system, if the value of the items ordered by the fridge exceeds the daily limit for example, the order transaction will go to a user’s personal device to initiate authentication of the transaction.

Simplifying the Infrastructure Requirements for the Developer Ecosystem

Blockchain infrastructure is built with a network of decentralized nodes which perform multiple operations like validating transactions, keeping track of all blockchain activity (archive nodes), and providing access to blockchain applications by providing RPC compatible endpoints.

Applications today can communicate with blockchain via a node, this node can either be managed and operated by the applications themselves or they can use a RPC provider, which offers blockchain infrastructure as a service. A good example of an RPC provider is infura (https://infura.io/). There are also providers like quicknode (https://www.quiknode.io/) which provides infrastructure to spin nodes and the access, security and management layer can be managed by the application itself.

Most dApps currently use smart wallet providers to manage their database. dApp wallet providers such as Metamask, Portis and Formatic enable the end user to make transactions, listen to activity, get balance statements, deploy contracts and make contract calls.
Smart contracts provide the users with the flexibility to run code on a decentralised network, like Ethereum. Smart contracts majorly contain two types of functions, taking the CRUD analogy, contract functions are either to change the state of something on the blockchain or just read a state.

Changing the state requires the user to make a transaction with a data field consisting of the instructions being sent to the contract, which is a function call. Web Services do not understand the state of blockchain, nor can they directly communicate with the smart contracts. Ethereum libraries like web3 exist which makes it easier for developers to execute smart contracts by just using the ABI (Application Binary Interface) of the deployed smart contract.

The only dependency is on the RPC provider, which can allow the web application to read and write data on the blockchain, that can happen either by making asset transactions or by calling smart contracts to alter the state on the blockchain.

Everything Considered

Blockchain technology has the potential to transform the world into a better place. It will be used as the foundation layer for building new levels of trust in finance, supply chain management, political elections, healthcare, education, gig economy, and many more. Even though we’re still in the early stages of Web3, mass adoption of blockchain technology is forthcoming and inevitable.

The Safle technology stack is here to accelerate and aid the adoption process for users and developers wanting to access and build on decentralised infrastructures.

Safle’s next-generation non custodial wallet, self sovereign identity protocol and Web3 infra. services are built using an open governance mechanism. In the Safle ecosystem, $SAFLE token holders are not only given governance privileges for regulating and progressing the project, but additional value is also pegged to the token for advanced finance and SafleID use cases. Creating a truly democratised ecosystem to access the interoperable world linked via blockchains and tokens.