Push CHAIN

Any Chain.
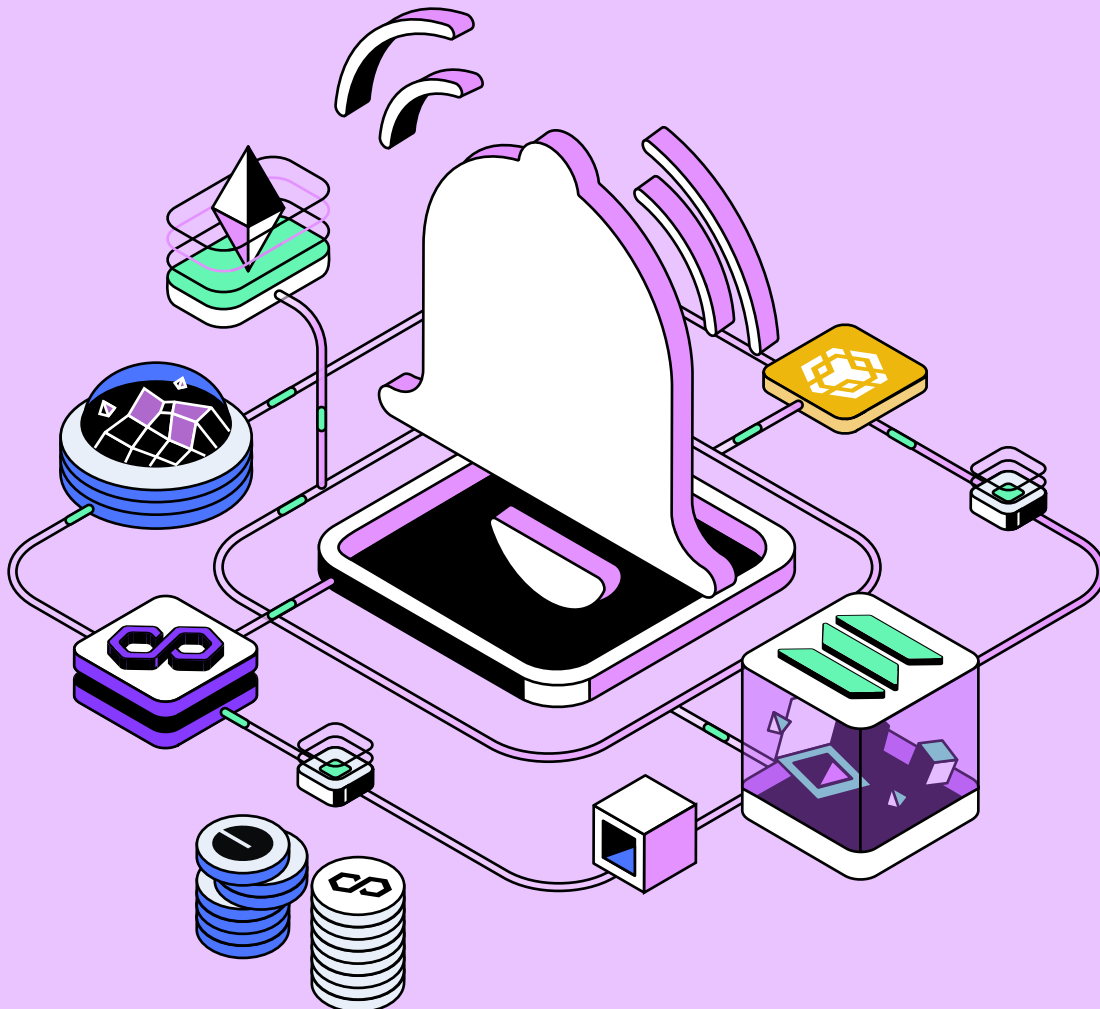# Any User.
Any App.

Table of Contents

The Big Blockchain Challenge

The Big Blockchain Challenge

Fragmentation of chains

Web3 now has capable L1s, L2s and L3s. While some L2s are interoperable, talking between all L1s, L2s and L3s still needs to be solved.

This has raised the issue of fragmentation. Users just want to try innovative apps for their cool features but are forced to either learn other chains and their rules or miss out as there is no concept of universal apps, something that can be accessed by users no matter where they are.

Scalability & Speed

Web3 still suffers from scalibility and speed since it only caters to financial apps where assembly lining of transactions is required. This architecture is not feasible for consumer apps which require sub-second finality and scalability that can handle thousands (if not more) of parallel transaction.
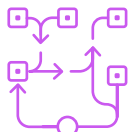
Friction and changing experiences

Users are forced to learn about chains, wallets, liquidity and protocol management. Instead all of this should be abstracted away leaving them to just use web3 apps for their features.

Missing unified experiences

Current web3 apps operate on one chain ecosystem, even when they are multi-chain. Liquidity, contract state, etc are specific to a chain.

In addition, unified app experiences are missing, where a universal hub or shared state is present that can unify users from all chains or facilitate settlement between all L1s, L2s and L3s.

This is different from bridging, as users from all chains come together to interact with an app. For example: a web3 social, or a prediction market accessible to any user of any chain, or even email where users from different blockchain interact with each other.

The
Solution

The Solution

## Push Chain - Any Chain. Any User. Any App.

Push Chain is a shared state blockchain for universal apps. It is a Proof of Stake (PoS) chain built to allow developers to create universal apps and act as a shared settlement layer for multiple L1s, L2s, L3s. It allows transaction from any chain, uses gas abstraction to ensure no hassle for interaction from other chains and provides wallet abstraction for seamless onboarding and signing for existing web3 users as well as web2 normies.

It also introduces a new tx type, which we define as 'consumer txs' (where ordering is not important), to enable non-financial apps to have the speed and scalability required by any consumer app. It leverages new mechanisms like unordered blocks (stateless blocks), parallel block execution and dynamic sharding to enable true scaling, and provides the perfect environment for any consumer app or universal apps to thrive in the era of fragmented chains.
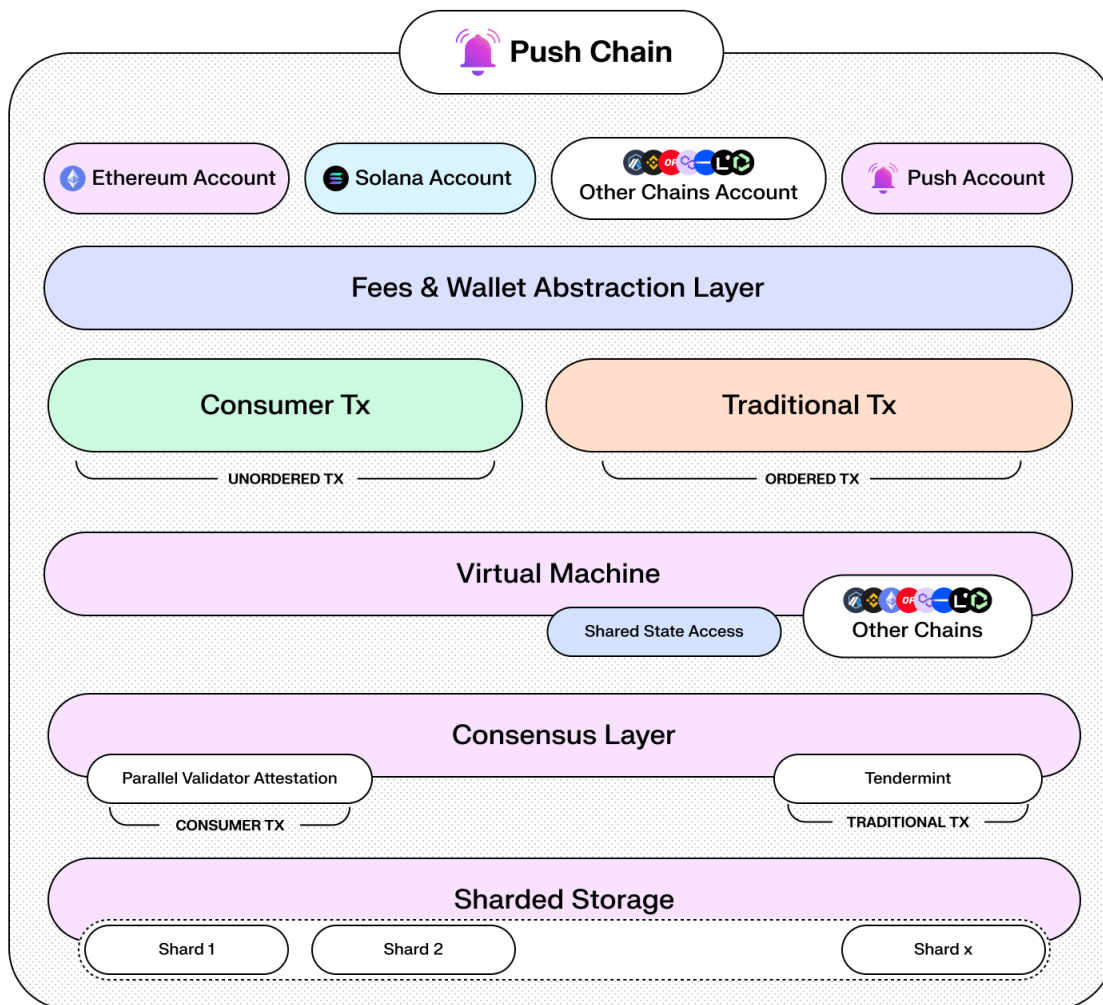
Is Push just another L1 Chain?

Push is a chain built to enable shared app experiences and unite L1s, L2s, and L3s experiences. It's a chain that allows txs from other chains, will have shared state of wallets of any chain, and a universal smart contract to abstract away the learning and friction for any web3 user or a web2 normie.
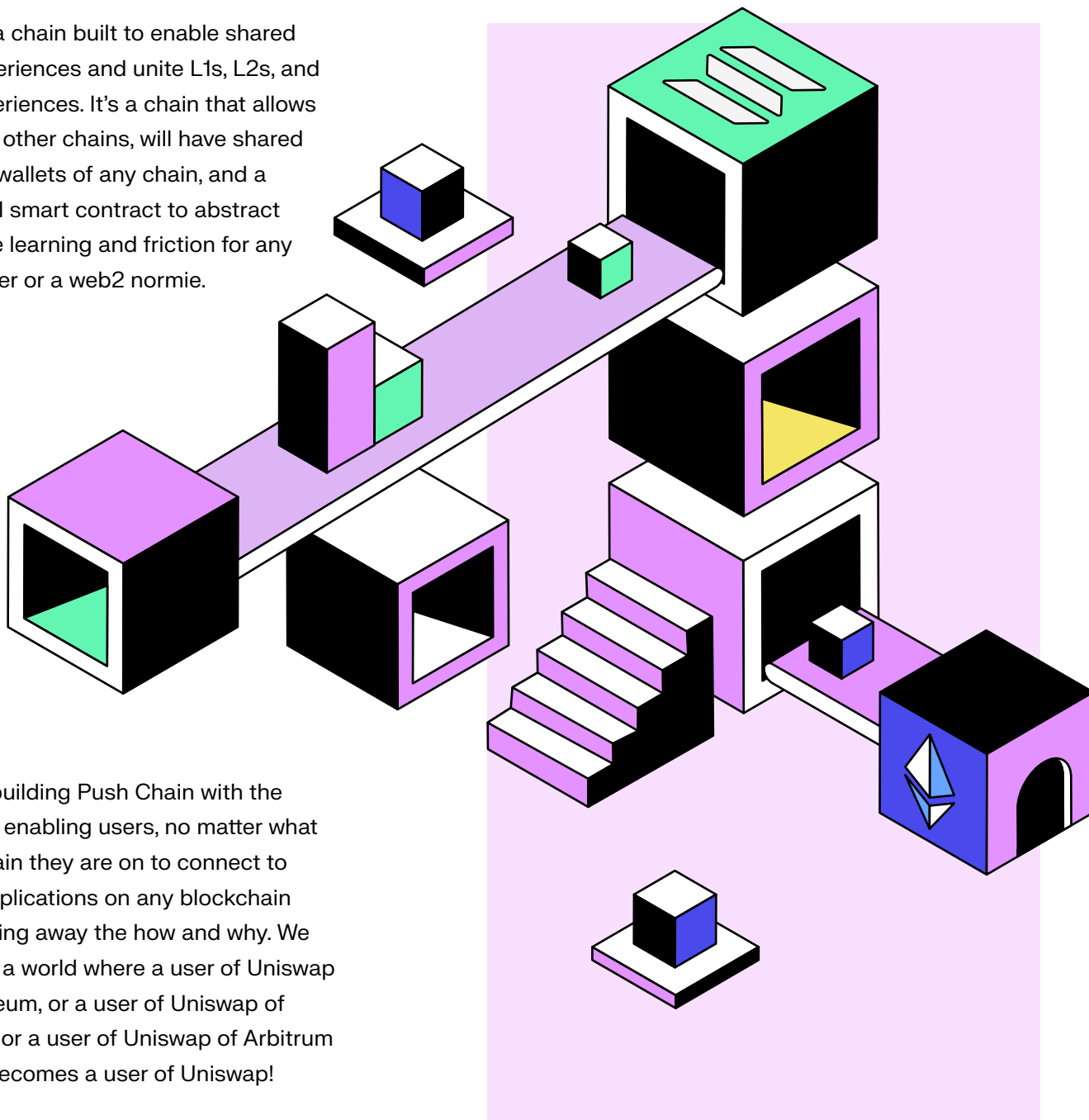
We are building Push Chain with the vision of enabling users, no matter what blockchain they are on to connect to web3 applications on any blockchain abstracting away the how and why. We envision a world where a user of Uniswap of Ethereum, or a user of Uniswap of Polygon or a user of Uniswap of Arbitrum simply becomes a user of Uniswap!
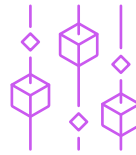
Innovations & Features

Innovations & Features

Transact from any chain

Push Chain supports transactions from any wallet, regardless of the originating chain—be it Ethereum, Solana, or any other L1s, L2s or L3s.

Parallel processing of tx

Push Chain achieves true scaling by processing transactions in parallel in most cases.

Allowing these transactions to be processed through any active validator node promises near-instant finality, and the write throughput (or TPS) of the chain increases linearly as the number of nodes grow.
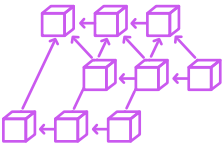
Sharded storage

Push Chain achieves true scaling of reading transactions by implementing dynamic sharding on storage nodes.

Data chunks within each shard are mapped to blockchain-agnostic addresses and are dynamically redistributed as new storage nodes are added.

Instant Finality

Push Chain splits the nodes into three types - Validator, Storage and Archival and enables a node governance smart contract that keeps track of all the nodes.

This heavily optimized nodes architecture and a new tx type - Consumer tx (Unordered tx) enables it to process transactions in parallel and in sub-second finality.

Wallet and Fee Abstraction

Wallet abstraction provides a flexible, embeddable wallet experience, tailored to individual user journeys enabling any wallet from any chain to connect, interact and transact with Push Chain.

Fee abstraction ensures that the user can pay the fees from the chain of their choice.
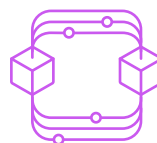
Seamless Interoperability

Push chain enables seamless interoperability between any chain to any chain, no matter if it's L1, L2, L3, EVM or non-EVM creating an era of chain abstraction for the user.

contd.

Innovations & Features

Push ID

Push ID gives each user one identity that spans all their wallets, both EVM and non-EVM. Instead of tying interactions strictly to a single wallet, transactions are also accredited to a user's Push ID.

The Push ID mapping allows for reverse lookups guaranteeing a consistent and unified interface for users, no matter which wallet they use. developers can fetch, index, and understand a user's full spectrum of interactions across chains, all mapped to one identity.
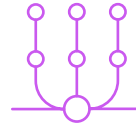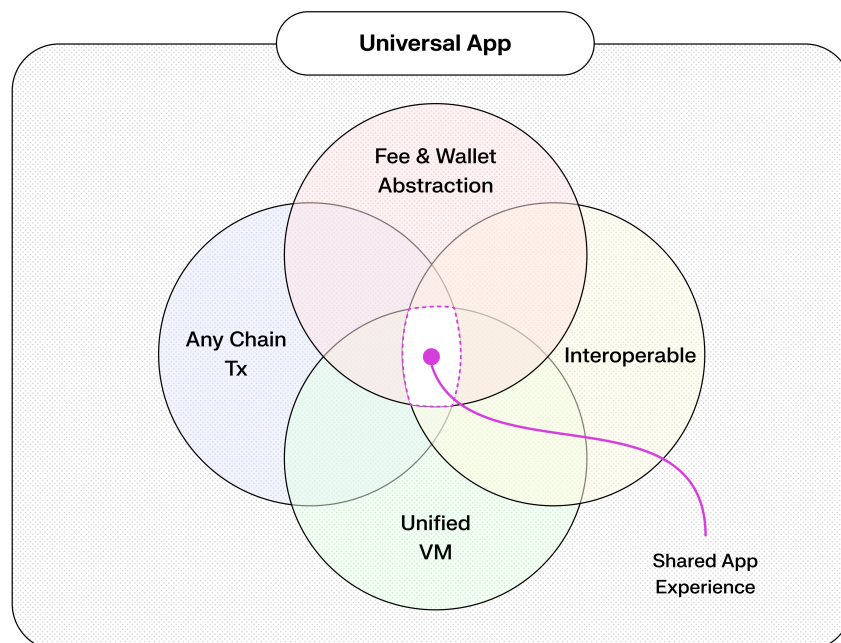
Shared State

Shared state allows Push Chain to access data from its own chain as well as external chains.

Combining this with Push ID gives the user a shared state of their entire web3 state (balances, NFTs, web3 actions) which are then leveraged by developers to create a universal app via universal smart contracts.

Universal Smart Contracts

Using shared state in VM, Push allows developers to write universal smart contracts with which universal app experiences become possible. Users, regardless of their origin—whether from any chain or ecosystem—can effortlessly interact with consumer apps that prioritize user engagement without regard to how or where they enter the system.

Push Chain Usecases

Push Chain Usecases

Ability to allow transactions from any chain, shared state, universal smart contract along with scalability and speed opens up a pleaothora of use cases. Below are just a few examples that can be built on Push Chain.

Prediction Markets accessible from any chain! 🌍 🎯

The win of the year for web3 gets bigger when users across chains can join the same platform instantly. Push Chain makes it possible—seamless, universal, and instant. 🚀 ✨

Universal AI Agents - agents that work across any chain 🌐

Launch AI agents on a unified platform with universal payment support (any token, any chain) and scale to thousands of concurrent operations. Push Chain makes this seamless and powerful. 🚀 ✨

Unified Web3 DeFi - abstracted swaps & unified liquidity 🏞️ 💧

Shared state and universal contracts let you tap into a single, borderless liquidity pool, making DeFi trading effortless, efficient, and truly chain-agnostic. Experience next-level freedom of seamless DeFi services, no matter where you are ✨

Poker, Fantasy Leagues, Shared Lotteries, Degens… assemble! 🎮 🎲

Push Chain lets gaming and degen apps break free from single-chain silos. Think cross-chain poker, slots, sports betting, fantasy leagues, shared lotteries, trading card platforms, and gacha games—all thriving in one interconnected ecosystem.

For instance, poker can be played across Ethereum and Solana.

Unified Web3 Social - instant, scalable and united ✨ 🤝

Fast, scalable, and decentralized web3 social—bringing users from Eth, Solana, and all chains together. Talk bulls and bears, take contrarian bets, and party across the web3 ecosystem! 🚀 🎉

Unified Web3 NFT Marketplace. Cross-chain collectibles 🌐 🎨

Shared state + universal smart contracts = true multi-chain magic!

Imagine trading NFTs seamlessly across different L1s without missing a beat. The future of collectible trading just got a whole lot brighter. ✨

contd.

Push Chain Usecases

Unified Public Funding & Crowdfunding 💸 🌐

Public goods and funding are at the very core of web3's ethos — shoutout to Gitcoin for paving the way for us and countless others!

With Push Chain, projects can be discovered and backed from across every chain, reaching a global audience and securing the vital resources they need. This is true open innovation, powered by collective support and borderless funding.

CDEX - DEX that behaves like a CEX 💱 🔗

The future of exchanges is decentralized, but we need top-tier UX! With 🔑wallet abstraction, 🤝 shared state, and 🌐universal smart contracts, that user-friendly, truly decentralized exchange is no longer just a dream.

### Unified Web3 DeFi - abstracted swaps & unified liquidity 🏟 💧

Imagine utility apps with universal reach—where every user across every chain is just a click away. From on-chain email and notification hubs to decentralized chat, blogging platforms, wikis, Reddit, Telegram, TikTok, fantasy sports and internet archives, these consumer apps tap into a unified Web3 user base for unprecedented synergy.

This isn't just bridging gaps, it's empowering developers and users alike to engage, create, and innovate beyond traditional boundaries—together, we're building the next generation of global, chain-agnostic web3 experiences.

Past Innovations & Insights

Past Innovations & Insights

Push invented communication for web3 and is the leading notification protocol and one of the first web3 consumer apps. We have sent over 140M notifications to leading protocols worldwide. Some of the protocols we power communication for are:
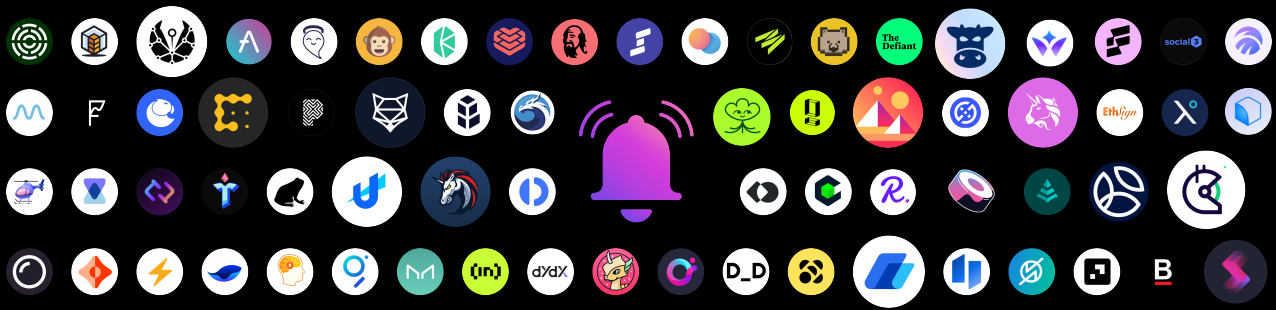
Push Protocol has been backed by prominent angels and VCs including Binance Labs, Balaji S, Jump, Parafi Capital, Tiger Global, Sandeep Nailwal, Anton Bukov, iOSG, Scott Moore, A.Capital among others.

jump_   TIGERGLOBAL   THE LAO   PARAFI CAPITAL   BINANCE

true   a_capital   iCEG VENTURES   polygon studios   4RC

RYZE LABS

Sandeep Nailwal
POLYGON

Andrew Keys
DARMA CAPITAL

Anton Bukov
1INCH NETWORK

Balaji Srinivasan
ENTREPRENEUR & INVESTOR

Kenneth Ng
UNISWAP FOUNDATION

DeFi Dad
ANGEL INVESTOR

Scott Moore
GITCOIN

The
Team

The Team

Harsh Rajat
FOUNDER

𝕏 in

Harsh is the founder of Push Protocol that invented native communication for Web3. Push was born out of ETHGlobal 2020, is an alumni of Ethereum Foundation, Gitcoin Kernel (Genesis Batch), CoinList among others.

Harsh has previously spoken at multiple tech conferences and hackathons, including Pragma, Solana Breakpoint, Messari Mainnet, ETHCC, ETHDenver, ETHAmsterdam, ETHLisbon, Schelling Point, NFT NYC, EDCON, and more. He has 13 years of entrepreneurial experience across various sectors of tech, including mobile, web services, SaaS, and blockchain.

Richa Joshi
CO-FOUNDER

𝕏 in

Richa is the co-founder of Push Protocol and has 13 years of techno-functional experience in project management and marketing.
Richa has also been a part of ETHGlobal hackathon (from where Push started), is an alumni of Ethereum Foundation, Gitcoin Kernel (Genesis Batch), CoinList amonth others.

Richa previously spoke and judged at multiple top-tier tech conferences and hackathons, such as ETHCC, ETHDenver, NFT NYC, Forbes, Coinbase and many more. Her previous background includes working with Deloitte, where she contributed to and led teams across multiple facets of product development.
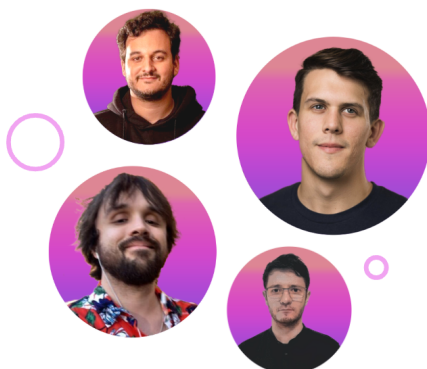
The team that scaled Push to 500k users

The team collectively brings a broad range of strategy, content, and product marketing expertise, drawn from years of contributing to notable organizations such as ConsenSys, Binance, Serotonin, etc.

They have designed and executed comprehensive content plans, published research on network decentralization and consensus mechanisms, co-founded an in-depth portal examining Web3 innovations, and spoken at premier conferences including Devcon and Consensus.

Resources

Whitepaper

Website

Knowledge Base

Push Scan

Simulate Tx