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WHITE PAPER

PREPRAED BY

YATRIPAY TEAM

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INTRODUCTION

Ideas, traditions, cultures, and sciences have traveled across this magnificent blue dot, and so has humankind. Travel has always been a major variable in the advancement of civilizations as people have traveled across continents and oceans, sharing what they had and adapting what they came across. If explorers like Columbus, Vespucci, and Vasco da Gama had not gone on their expeditions, the land masses would not have been discovered, nor would we have maps of seas and oceans. Rationally travel has helped us to reach where we stand today, and yet we want to travel further to Mars and space beyond. Travel has ensured the survival of our species and we believe it should bloom more, spreading knowledge and experiences across our planet. Yatripay project strives to contribute to the journey of "modern travel" by modernizing payment ecosystems using blockchain technology. This whitepaper will walk you through how Yatripay plans to implement its idea of revolutionizing the Travel & Tourism Space.

Mission

Mission

Before the Global Pandemic COVD-19, estimated 339 million individuals were directly or indirectly employed by the Tourism industry accounting for every 1 in 10 jobs globally as individuals [1], businesses and establishments have heavily invested in this sector. The industry has taken a harsh hit but is definitely meant to be back on its feet once things get back to normal. Yatripay project is committed to bring technological innovations using blockchain which would make traveling convenient and affordable for the masses.

Blockchain happens to be one of the fastest growing technologies in the world. Yatripay (YTP) is the digital currency of Yatripay Blockchain which harnesses the power of Proof of Authority consensus mechanism. We have implemented a network which is fast but secure at same time, evenly distributed but does not lack integrity and on top of that it can be scaled to measure where it can be utilized by enterprises for both payment and retail applications.

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YVM + POA

YatriPay Virtual Machine (YVM)

Based on the concept of chains like Ethereum, YatriPay Virtual Machine (YVM) is the core of YatriPay's blockchain. It's a powerful, sandboxed virtual stack embedded within each full YatriPay node, responsible for executing contract bytecode. Every YatriPay node runs on the YVM to maintain consensus across the blockchain. The decentralised and deterministic nature of the YVM ensures that all operations on YatriPay are final and immutable.

The YVM enables the deployment and execution of smart contracts, written in high-level languages like Solidity, which are then compiled into bytecode understandable by the YVM. Decentralised applications (dApps) are also built on the YVM. These are applications that run on a peer-to-peer network of computers rather than a single computer.

Operations in the YVM consume gas. Gas prevents spam on the network and allocates resources proportionally to the incentive offered by the request. The YVM is isolated from the main YatriPay network, which provides security. This means that code run in the YVM cannot access the network, filesystem, or other processes.

YVM + POA

Proof of Authority (PoA) Consensus Mechanism

Keeping high throughput, scalability, and identity at stake in mind, YatriPay relies on Proof of Authority consensus mechanism for its Blockchain network. In POA transactions and blocks are validated by approved accounts, known as validators. Unlike POW and POS where the identity of Miners/Stakers is anonymous, YatriPay's Proof of Authority brings in the highest level of transparency.

In this arrangement, validators are pre-selected and their identities are often known and reputable, which adds a level of trust and accountability to the network. Whilst PoA is more energy-efficient than PoW and POS as it does not require extensive computational power for solving complex mathematical problems.

Both the YVM and PoA play crucial roles in their respective areas within the YatriPay ecosystem. The YVM stands as a cornerstone of YatriPay's functionality and flexibility, enabling a multitude of decentralised applications, while PoA offers an efficient and scalable consensus mechanism.

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No Centralization

Centralization is a big problem with every Proof of Work blockchain. It should be understandable that in a POW system, people can buy mining hardware and use it for solving blocks. The irony is these mining hardware are expensive and consumes a lot of electricity (way more than household appliances). Hence certain people with access to large funds can buy more and more of these hardwares and can afford huge electricity bills as well. This puts the majority of network hashrate into the hands of few individuals or groups with abundant mining capacity and thus promotes centralization.

In the YatriPay Blockchain, the process of becoming a validator is uniquely democratised and decentralised through community voting. Anyone aspiring to be a validator must first undergo a stringent KYC (Know Your Customer) verification process, ensuring their identity and credibility. Once verified, these community members are eligible to participate in the validator selection process. The actual selection is based on community votes, allowing the broader network of users to have a direct say in who maintains the blockchain. This method ensures a high degree of decentralisation, as it empowers the community to determine the network's validators based on trust and merit, rather than centralised authority or automated algorithms. Such a system not only enhances the security and integrity of the YatriPay EVM chain but also reinforces its commitment to community-driven governance and transparency.

Less Electricity Consumption

Global population is increasing, so is the demand for energy and the carbon footprint left behind in the whole process. As we have already discussed how POW networks are prone to centralization and high energy power consumption, Bitcoin production is estimated to generate between 22 and 22.9 million metric tons of carbon dioxide emissions a year, or between the levels produced by Jordan and Sri Lanka, a 2019 study in scientific journal Joule found [3]. Miners in a POW system generally work with cheap electricity sources like coal and hence Proof of Stake seems to be a very viable solution in fixing the power-carbon problem.

Unlike PoW or POS, which requires miners to solve complex mathematical puzzles to validate transactions and create new blocks, energy use in YatriPay Blockchain is more predictable and consistent. It does not fluctuate with network activity, leading to more efficient energy planning and usage. PoA does not involve energy-intensive computations. Validators in a PoA network are pre-selected and authorised to generate blocks, eliminating the need for competition-based, energy-consuming puzzle solving. As YatriPay's PoA network scales, it does so without a proportionate increase in energy consumption, unlike other networks where more participants mean significantly more energy usage. This streamlined process reduces the overall energy consumption of the network.

Secure

The integration of the YatriPay Virtual Machine (YVM) and Proof of Authority (PoA) consensus mechanism in the YatriPay blockchain brings several safety and security benefits.

YatriPay Virtual Machine (YVM)

1. Isolation of Smart Contracts: The YVM runs smart contracts in an isolated environment, protecting the main network from any potentially malicious or faulty contract code.

2. Deterministic Execution: Ensures that smart contracts operate exactly as programmed without any possibility of downtime, censorship, fraud, or third-party interference.

3. Compatibility and Flexibility: Supports a wide range of smart contracts and decentralised applications (dApps), enhancing the overall ecosystem's security through vetted and tested code.

4. Auditability: Facilitates easier auditing of smart contracts, allowing for regular security checks and verification of contract logic.

5. Resource Management: Implements gas fees for operations, preventing network abuse and ensuring that resources are used efficiently.

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PoA Consensus Mechanism

1. Trusted Validators: PoA relies on a group of pre-approved validators who are known and trusted entities, reducing the risk of malicious activities within the network.

2. Fast and Secure Transaction Validation: The consensus process is faster with a 3 Second Block Time and more energy-efficient, allowing for quicker validation and finality of transactions, which enhances security.

3. KYC-Verified Participants: The requirement for validators to be KYC-verified adds an additional layer of security, ensuring that validators are accountable and identifiable.

4. Limited Number of Validators: This limits potential points of failure or attack within the network, as opposed to more open consensus mechanisms where numerous anonymous nodes can participate.

5. Resistance to Certain Attacks: PoA networks are generally less vulnerable to 51% attacks, where a single entity gains control of a majority of the network's mining power, due to the known and trusted nature of validators.

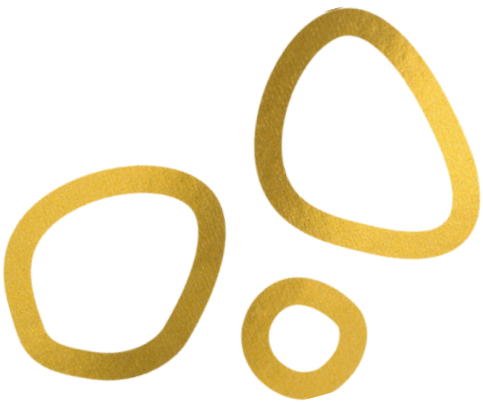
6. Network Stability and Reliability: PoA provides a stable and consistent performance, crucial for maintaining the integrity and security of the blockchain.

By combining the robust and efficient YatriPay Virtual Machine with the trusted and streamlined Proof of Authority consensus mechanism, the YatriPay blockchain establishes a secure and reliable platform for its users. This synergy ensures the safe execution of smart contracts and transactions, maintaining the integrity and trustworthiness of the entire network.

Power of Tokenization using YVM

YatriPay community members can now easily create their Tokens and NFTs on the YatriPay Blockchain. Already existing contracts from EVM compatible chains like Ethereum and Binance Smart Chain are also supported. Though YatriPay itself envisions to make use of these two powerful features in certain unique ways.

Support for tokens and Non-Fungible Tokens (NFTs) and is set to significantly transform the travel industry. These two distinct features are particularly beneficial for loyalty and reward programs, allowing travel-related businesses to issue their branded tokens. These tokens can be redeemed for various services like booking flights, accommodations, or unique travel experiences, thereby enhancing customer engagement and loyalty. Additionally, the tokenization of travel assets, such as hotel rooms or flight seats, can lead to more efficient booking processes and dynamic pricing, optimising revenue management for service providers.



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NFTs in the YatriPay ecosystem open up a realm of possibilities for unique travel experiences. They can represent exclusive access to events, personalised tours, or special travel packages, adding a layer of security and exclusivity. This functionality can also streamline identity verification processes, making check-ins and security clearances more efficient and reducing the potential for fraud. Furthermore, the use of NFTs and tokens in promoting sustainable travel practices, such as rewarding eco-friendly choices, can foster responsible tourism. The transparency and immutability of blockchain transactions enhance trust among all parties involved. By democratising access to travel services, YatriPay has the potential to create a more inclusive, efficient, and enjoyable travel experience for users worldwide, marking a significant leap towards a more connected and experiential future in tourism.

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YTP = (Web3 + DApps)

The YatriPay blockchain's support for Web3 technologies and compatibility with decentralised application (DApp) wallets like MetaMask is a significant step in fostering a more interconnected and user-friendly digital ecosystem, particularly in the travel industry. This integration plays a crucial role in enhancing user experience and accessibility in the burgeoning Web3 space. Here's how it achieves this:

1. Web3 Support:

Decentralised Access: YatriPay's Web3 integration allows users to interact with its blockchain directly from their web browsers. This means that users can engage with various decentralised applications (dApps) on the YatriPay blockchain without needing centralised intermediaries.

Smart Contract Interactivity: Through Web3, users can easily interact with smart contracts on the YatriPay blockchain. This capability is crucial for executing transactions, accessing services, or participating in unique travel experiences facilitated by smart contracts.

Enhanced User Experience: The integration with Web3 technologies ensures a seamless and intuitive user experience. Users can navigate the decentralised web and access YatriPay's services with ease, mirroring the user-friendly nature of traditional web applications.

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2. Compatibility with DApp Wallets like MetaMask:

Wallet Integration: YatriPay's compatibility with DApp wallets like MetaMask allows users to securely store, manage, and transact with YatriPay tokens and NFTs. MetaMask, being one of the most popular Ethereum-based wallets, offers a familiar interface for users.

Easy Transactions: Users can conduct transactions directly within the dApps on YatriPay's platform using MetaMask. This includes purchasing travel services, transferring tokens, or participating in loyalty programs.

Security and Ownership: Wallets like MetaMask provide a secure way to store digital assets. They give users full control over their tokens and NFTs, aligning with the decentralised ethos of blockchain technology. This aspect is especially important in maintaining the integrity and security of transactions on the YatriPay blockchain.

Cross-Platform Accessibility: MetaMask's availability as a browser extension and a mobile app ensures that users can access YatriPay's services across different devices, enhancing accessibility and convenience.

YatriPay's support for Web3 and its compatibility with DApp wallets like MetaMask pave the way for a more integrated, user-friendly experience in the digital travel space. These features not only simplify interactions with the blockchain but also bolster security and trust, which are vital in the adoption and growth of decentralised technologies in the travel industry.

Tokenomics

YatriPay involves a well-structured allocation of its total token supply, which amounts to 1,300,000,000 YTP Coins. This allocation is designed to support the network's growth, reward participants, and ensure the long-term sustainability of the ecosystem. Here's a breakdown of the allocations and their intended purposes:

Total Supply and Premine

Total Supply: The entire token supply for YatriPay is set at 1.3 billion coins.

Premine: All of these coins (100% of the total supply) are premined, meaning they are created and allocated when the network goes live to the public.

Allocation Breakdown

1. Validator Nodes - 51% (663,000,000 YTP):

- A majority of the coins, amounting to 663 million, are allocated to validator nodes.
- This allocation underscores the importance of validators in maintaining the network's integrity and security.

2. Remaining Tokens - 49% (637,000,000 YTP):

- The remaining 637 million coins are distributed across various categories to support different facets of the YatriPay ecosystem.

Team - 200,000,000 YTP:

- A significant portion is reserved for the team, ensuring that the people who build and maintain YatriPay are incentivized and rewarded for their efforts.

Public Sale - 200,000,000 YTP:

- An equal portion as the team's allocation is set aside for public sale, offering a substantial amount of coins to the broader community and potential users.

Private Sale - 100,000,000 YTP:

- A smaller portion is allocated for private sales, likely targeting early investors, strategic partners, or stakeholders with a vested interest in the project's success.

Staking Reward - 100,000,000 YTP:

- Tokens are allocated for staking rewards, encouraging users to stake their coins to support network operations and, in return, receive rewards.

Promotion - 25,000,000 YTP:

- A portion is set aside for promotional activities, crucial for building awareness and attracting users to the YatriPay platform.

Advisors - 12,000,000 YTP:

- A smaller allocation for advisors recognizes their contribution to guiding and shaping the strategic direction of YatriPay.

Time-Based Smart Contract Lock

All these allocations are locked in a time-based smart contract. This means that the coins will be released according to a predetermined schedule, adding a layer of financial discipline and stability to the coin distribution process. This approach helps prevent market flooding and ensures a steady and controlled release of coins into the ecosystem.

The tokenomics of YatriPay reflects a strategic approach to distributing YTP in a manner that supports the ecosystem's growth, rewards key contributors, and aligns with the long-term vision of the project. By leveraging time-based smart contracts, YatriPay ensures a balanced and sustainable token distribution, contributing to the stability and growth of the network.

YatriPay Staking Platform

In order to increase access to the YatriPay network, the project has its own web wallet with virtual staking feature. Blockchain staking happens to be somewhat complex and demands technical know-hows. While staking with personal computers, one requires to keep the machine Turned ON all the time and ensure a 24x7 connectivity to the internet. The other way is to run staking node on a Virtual Private Server (VPS) but again it needs hands-on knowledge of the Linux operating system and the user will have to pay recurring cost of the server as well.

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Yatripay & Metaverse

Shopping, Banking, Entertainment and a thousand other things are under your fingertips when equipped with a smartphone and internet. The world is going through the digital revolution where Metaverse is a ground breaking innovation. Yatripay envisions making use of this invention by developing a metaspace exclusively for travel. There are millions of destinations around the globe, not even the most seasoned travellers have seen every corner of the world. But with this digital invention Yatripay plans to launch an exclusive metaspace, where people can explore various famous destinations and monuments virtually.

The idea is not to turn the travel totally digital but provide the budding travellers with a taste of what a place is like. Nowadays people make use of Google and Youtube while carrying research about a possible place they would travel to. Metaspaces use AR and VR technology and the experience is very close to real life. Hence the end goal here is to let people see and feel a place virtually, this would add to virtual travel but then travellers can decide if they want to visit this place in real life. The end goal here is only to promote more travel using whatever digital means are available at our disposal.

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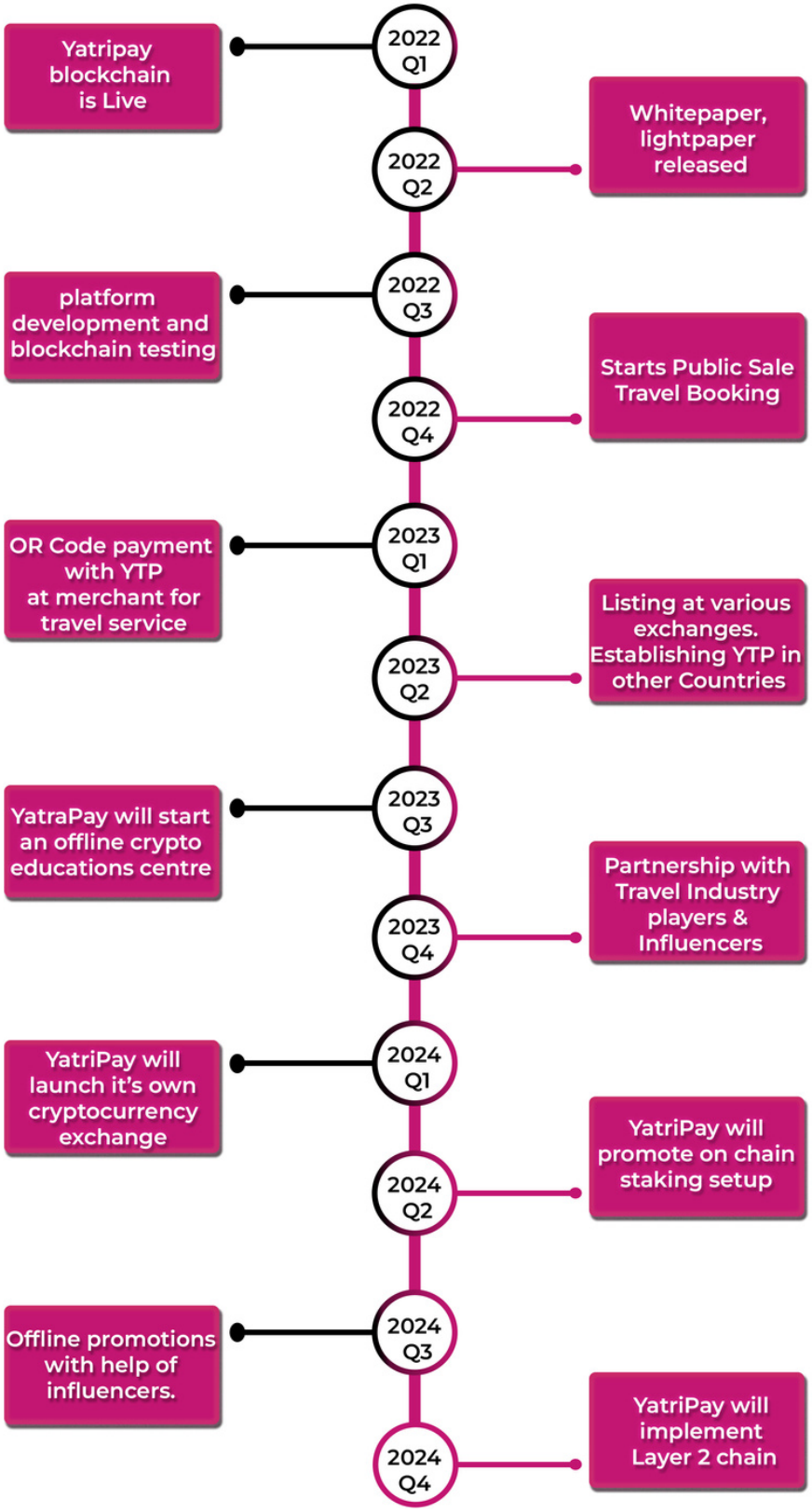
YatriPay's Use Cases

YatriPay is committed to integrate it's blockchain network across the globe with various players in the travel and tourism industry. The major target is to use YatriPay for instant transaction settlements where travellers can settle the payments using YTP only. We have plans to pen partnerships with different businesses in the tourism ecosystem. These are the use cases YatriPay will implement initially.

>> Use of YTP for Hotel Bookings
>> Use of YTP for Cab Bookings
>> Use of YTP for Travel Packages
>> Establishing YTP as an asset which would exclusively benefit travel enthusiasts.

Roadmap



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Conclusion

It is very true that the tourism industry took a severe hit during the Global Pandemic. At the same time after the first and second wave of COVID-19 the world saw something called 'Revenge Travel'. Pandemic changed how the world operates, work from home became the new normal and people avoided stepping outside due to fear of catching infection. But as people were constantly missing the access to recreational tourism, after the first and second wave they flooded the travel destination in large numbers and this started the term 'Revenge Travel'. We firmly believe that once the situation is back to normal, the travel industry is going to see a boom as never before.

Famous American automobile racer Bobby Unser quotes "Success is where preparation and opportunity meets''. The Yatripay Project has been preparing for the right opportunity when the Tourism industry will be back on its feet, standing stronger than ever. Vision of the project is to plug Blockchain Technology in this ecosystem and make travel more accessible and affordable for people. As Yatripay Project commits itself to disrupt this industry with many positive ventures, it is attainable that the YTP would see consistent gains in value as well. Yatripay Project would be making consistent developments and hence very positively will connect a wide array of people to the project.

Yatripay firmly believes that this idea would transform the tourism sector and hence looks forward to building a solid community of crypto and travel enthusiasts as nothing big has ever been achieved without support of masses. Our innovation, Your Trust.

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TEAM

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Atul is an IITB alumnus and comes with an experience of 16+ years in technology and has led tech in organisations like Rediff.com, Balaji, India.com, and Mswipe.com. He has built 4 SaaS products in both B2C & B2B space and has successfully sold one of the products Shopxie to Mswipe in 2018.

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Co-Founder & CBO

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Varun Sethi is a lawyer by profession with an inclination toward startup evangelism. He is a self-confessed technology fanatic. Sethi has been a startup consultant since 2012, building a solid client base with technology companies.

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A video analyst product developer. The work involves working around applied computer vision using conventional CV as well as DL-based CV, and some infrastructure development around it. Currently working on a video analysis project at TIH-ihub Drishti, IIT Jodhpur.