PAPY Token
White Paper

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1. Introductory

1.1 Project Background and Initial Development

With the rapid development of the global digital economy, digital payments have become an indispensable part of people's daily lives. However, the current mainstream payment system relies on centralized financial institutions and expensive intermediary frameworks, which not only leads to high transaction costs, but also poses limitations on privacy, efficiency and cross-border usage. Especially in micropayments, small transfers and emerging markets, traditional payment systems are often cumbersome, expensive and not easily accessible.

The birth of blockchain technology has opened up the possibility of restructuring the financial infrastructure, and its decentralized, verifiable and globally accessible features have opened up a brand new chapter for digital payments. However, most of the crypto payment products in the market are still focused on high-value asset transactions, and there is a lack of lightweight solutions designed for "everyday payments".

It is against this backdrop that PAPY was born. We are committed to building a blockchain-centered digital payment token and application ecosystem for the general public to support daily use scenarios, filling the gap of "crypto-payment into daily life".

1.2 Core Goals and Vision

PAPY's ultimate goal is to simplify the use of blockchain payments so that users around the world can naturally complete their daily payments and transfers without needing to understand the details of blockchain technology, just as they do with Apple Pay or Alipay.

Our vision includes:

Creating a truly "usable" blockchain payment tool that offers real-time, low-fee and fiat currency conversion support

Promote Web3 technology to the daily scene, from retail stores, transportation to Internet tips, all can be applied.

Build an open payment ecosystem that supports multi-participation and value sharing among merchants, developers and users.

Scalable infrastructure, integrated with Layer 2 expansion, stable-currency bridging, and fiat payment gateway to form a one-stop solution.

1.3 Core features of PAPY

Lightweight Architecture, Minimalist User Experience

PAPY is based on the design concept of a high-performance public chain (or Layer 2 support) with a minimalist UI/UX to ensure that users can easily make payments without the need to have knowledge of crypto wallet operations.

Instantaneous and Low Handling Fee

By supporting Flash, Rollup, or high TPS blockchain platforms, PAPY enables a second-to-confirm transaction experience and makes micropayments viable and affordable with Gas discounts and dynamic rate adjustments.

Integration of Fiat and Stablecoin Bridging Mechanisms

PAPY will be deeply integrated with stable currencies (e.g. USDT/USDC) and fiat currencies to ensure that users and merchants can easily enter and exit the crypto ecosystem and reduce barriers to use.

Wide range of application scenarios

We not only support offline stores, restaurants, and public transportation, but also provide complete SDKs and intermediary tools for online e-commerce, Web3 subscription services, DApp payments, and NFT ticketing.

Open Ecology and Developer Friendly

PAPY is not only a token, but also an open payment protocol platform. We will release APIs, SDKs, and plug-in tools to encourage third-party applications to access and co-create a payment application ecosystem.

PAPY is an experiment and practice of "making blockchain payments truly everyday". Through innovative technology and user-oriented design, we hope to build a bridge from the chain to life, so that cryptocurrency is no longer just a tool for asset speculation, but an indispensable financial option in daily life.

2. Global Digital and Blockchain Payments Market Status

2.1 Trends in Traditional and Digital Payments

Over the past decade, digital payment technology has experienced rapid evolution. From credit cards, internet banking to mobile payments, the mode of payment has continued to develop in the direction of "real-time", "mobile" and "scene-based". Taking mobile payments as an example, WeChat Pay and Alipay in China, Apple Pay and Google Pay in Europe and the U.S., as well as India's UPI system, have been deeply integrated into the retail, transportation, and personal transfer scenarios, greatly enhancing transaction efficiency and penetration.

According to Statista and World Bank, total global digital payments transactions are expected to exceed **$10 trillion** by 2024 and continue to grow at a double-digit rate. This trend demonstrates the growing demand for fast, secure and convenient payment methods.

However, even with increased digitization, **traditional payment systems still face several structural problems**:

High reliance on centralized financial institutions: users must trust the intermediary platform, and risk is concentrated.

Cross-border transfers are costly: international remittances are subject to high handling fees and lengthy settlement processes.

Lack of Inclusion: Hundreds of millions of people in emerging markets still do not have access to formal banking services.

Data privacy and monitoring issues: User transaction information is mostly collected by platforms, with potential privacy risks.

These pain points create room for blockchain payments to make inroads, especially in the direction of promoting 'decentralized payments', 'financial inclusion', and 'data sovereignty'.

2.2 The Current State of the Blockchain Payment Ecosystem

Blockchain payment solutions are gradually moving from the concept to the ground, forming the initial application ecosystem. Below are a few representative blockchain payment technologies or systems:

Lightning Network

The second tier of the scaling solution built on top of the Bitcoin protocol dramatically improves BTC's payment capability through the channel mechanism, realizing near-zero handling fees and real-time transactions. However, its popularity and user experience still need to be improved, especially on the mass user side.

Solana Pay

Solana, built on the high TPS Solana blockchain with ultra-fast transaction confirmation and low Gas fees, is exploring the Web3 payment model with merchants like Visa and Stripe. Its positioning is close to the Web2 experience, but the degree of decentralization is still questionable.

Celo

A "mobile-first" blockchain platform dedicated to financial inclusion in developing countries, Celo's stable currency, cUSD, is widely used for payments and microfinance, with regional applications in Africa and elsewhere.

USDC / USDT as a Payment Medium

Stablecoin is widely used as a payment tool in the chain due to its value stability. However, most of them are only used as a settlement medium, and lack of optimized design for "payment experience", such as real-time performance, Gas burden and UI flow integration.

In addition, MetaMask, WalletConnect, Trust Wallet and others continue to optimize the payment experience, but they are still wallet tools and have yet to form a complete solution for "everyday payments".

2.3 Market Pain Points and Opportunities for Decentralized Payments

Despite the potential of blockchain payments, there is still a significant distance from "large-scale implementation", and the main pain points include:

Unstable fees and poor user experience: High fees and transaction delays when the main network is congested or gas prices soar.

Difficulty in exchanging and withdrawing fiat currency: Users cannot buy directly in fiat currency or use crypto payments, which is a high barrier.

Lack of incentive for merchants to access: Existing blockchain payments lack standardized tools and business incentives for merchants.

Compliance uncertainty: Most countries have yet to clearly define the regulatory framework for blockchain payments, making it difficult to promote.

However, these challenges are **where the PAPY program's opportunities lie**.

PAPY has the potential to become the "Alipay of the Web3 world" by designing a **lightweight, efficient, developer-friendly, and fiat currency integration-friendly** payment architecture. It not only provides tokens as a payment medium, but also integrates Layer 2 technology, Gas Offset, stable currency bridging and a compliant API interface to build a sustainable and scalable ecosystem for everyday payments.

To sum up, although traditional payment has been digitized, it is still limited by centralized structure and cross-border restriction, while blockchain payment has not yet penetrated into the daily life of the general public, PAPY's mission is to bridge the gap between these two, and create a truly usable, accessible, and trustworthy new entrance to blockchain payment.

3. PAPY Design Concept and Positioning

3.1 The Meaning of "Lightweight Payments" in the Blockchain Environment

Traditional payment systems emphasize "lightweight, instantaneous, and user-friendly" - from users simply scanning a code to make a payment, to senselessly completing a transfer, these designs collectively form the standard for modern digital payments. However, in the blockchain world, users often need to face cumbersome experiences such as long address codes, manually entering gas fees, and waiting for confirmation of transactions, which makes blockchain payment unable to truly enter the daily life.

PAPY is designed to break the stereotype that "on-chain equals complex". Our definition of **"lightweight blockchain payments"** covers the following core principles:

The transaction process is extremely streamlined: users can scan, pay, and transfer funds without having to understand the technical details.

Transparent and predictable gas costs: Pre-engineered cost offsets or gas prepayment mechanisms prevent gas fluctuations from disrupting the user experience.

Seamless device-to-scene integration: Support for cell phones, tablets, POS and Web3 apps for cross-device consistency.

Instant confirmation and feedback design: UX elements such as "confirmation sound" and "vibration feedback" similar to Apple Pay and Alipay are integrated into the on-chain experience.

As technologies such as Layer 2, Account Abstraction, and ZK Rollup continue to mature, PAPY leverages these innovations to make on-chain transactions usable and efficient, and no longer limited to experienced users in the early days of blockchain.

3.2 Differentiation from mainstream crypto payment products

There are a number of blockchain payment tools available on the market today, such as FlashNet using BTC, WalletConnect on ETH and various stablecoin payment applications. However, most of these systems have several limitations:

Asset settlement at its core, rather than "payment experience" as a design priority.

The lack of friendly integration for the fiat channel is not conducive to adoption by merchants and general users.

Full SDK/API support is not provided, making it difficult for developers to quickly integrate payment functionality.

Risks are passed on to the user during the transaction process (e.g. unstable Gas charges, transaction congestion waiting time, etc.).

PAPY's differentiation strategy clearly sets it apart from general blockchain payment products by focusing on creating a payment experience tailored for everyday life. While most blockchain-based tools are designed for tech-savvy users and asset transfer purposes, PAPY is built with a user-first mindset, aiming to serve the general public and commercial use cases through intuitive and seamless payment solutions.

In terms of cost, typical products require users to bear their own gas fees. PAPY, on the other hand, supports prepaid gas and token-based discounts, effectively lowering the barrier to entry. For channel integration, PAPY not only operates natively on the blockchain but also integrates fiat gateways and value-stabilizing mechanisms, enabling smooth interaction between traditional finance and crypto systems.

Moreover, PAPY extends beyond Web3-only environments by ensuring full compatibility with both Web2 and Web3 ecosystems. This allows broader market access and a more inclusive user base. Through these strategies, PAPY positions itself in the "everyday payment" market—delivering instant, low-cost, and seamless transactions for daily needs, from grocery shopping and public transportation to purchasing digital goods.

3.3 Dual Orientation for Everyday and Web3 Applications

PAPY is not just about providing a token payment tool, but about building a bridge between the Web2 and Web3 worlds. With this vision in mind, PAPY is positioned as an open payment protocol and tokenization mechanism with both ends of the spectrum:

For everyday real-world scenarios

Supports offline store and POS payments.

QR Code payment flow design

Supports mixed payment mode of stablecoin and PAPY

Provide merchants with automatic settlement in French currency (to avoid exchange rate risk)

For Web3 application scenarios

Integration of NFT Marketplace, DAO Platform, GameFi and Decentralized Subscription Services

Embedded small amount of reward, real-time transaction confirmation (applicable to live broadcast, social platforms)

Link with DeFi platform to support one-click switching between payment and investment modes.

This two-way orientation not only expands the depth of application of PAPY, but also improves the practicality and circulation demand of tokens in different scenarios, which is favorable to the value precipitation and sustainable development of the entire ecosystem.

4. Blockchain Payment Technology Framework

PAPY, as a blockchain token focusing on daily payment scenarios, has a technical framework based on the four design principles of "high efficiency, scalability, security, and low threshold". In order to truly realize a lightweight blockchain payment experience, PAPY has been integrated and optimized in the underlying technology, smart contracts, transaction process and user interface.

4.1 Quick Transfer and Layer 2 Extension Support

One of the biggest challenges facing blockchain payments is transaction speed and scalability. To solve the problems of mainchain congestion and Gas cost fluctuation, PAPY natively supports multiple Layer 2 scaling solutions (e.g. Arbitrum, Optimism, Base), which are deployed in conjunction with Layer 1 bridges:

Layer 2 Fast Payment Pipeline: Rollup technology enables second transaction confirmation and low transaction fees.

Bridge: Supports fast switching and synchronization of Layer 1 <-> Layer 2 assets.

Gas prepayment function: Use PAPY tokens to pre-pay for gas, or subsidize part of the transaction fee from the DApp side to realize senseless transactions.

Users can select the "Quick Transfer" mode in their mobile wallet, and the system will automatically select the best Layer 2 path to complete the transaction at the lowest cost and the fastest speed.

4.2 Merchant scanner payment process and chain confirmation mechanism

In order to provide a seamless payment experience for both merchants and consumers, PAPY utilizes QR Code scanning as the core payment interface. The overall transaction flow is as follows:

The merchant generates a QR Code containing the order amount and the address to receive the wallet.

Consumers are automatically directed to the payment page after scanning the code and can choose to pay in PAPY or stable currency.

The system automatically calculates the optimal link path and gas estimate, confirms it and sends the transaction.

The PAPY API will notify the merchant of "Payment Complete" after the chain transaction is confirmed.

The transaction validation mechanism in this process uses smart contracts for multi-level validation, including:

Cross-link validation (if necessary using Chainlink as a preemptive machine to validate payments)

Support for one-time payments and reusable payment addresses

Extended support for NFT or DApp internal payment

This design ensures an uninterrupted merchant experience even during peak hours.

4.3 Wallet Experience Optimization and Transaction Experience Enhancement

The interface design of PAPY wallet is based on the "Web2 user habits", and the blockchain technology is used to minimize the back-end processing, while the user operation is simplified as much as possible. For example:

Gas forecasting and auto-recommended rates

UI simulates traditional payment animation and sound confirmation effects.

Transaction Progress Strips and Real-Time Notifications

Multi-chain auto-detection and switching alerts

In order to lower the barrier to entry, PAPY will also support the "Social Login Wallet" and "Wallet as a Service (WaaS)" models, making it easy for users to open blockchain payment accounts via Email, social accounts, etc., while retaining decentralized asset control.

4.4 Smart Contract Design and Security Considerations

PAPY's Smart Contracts are developed using security-first design principles, combined with a modular and scalable framework to support future application expansion. Key features include:

Scalable Proxy Patterns: Support for future feature optimization and bug fixes.

Modular Token Payment Control: Customizable payment process logic, such as timed debit, subscription payment, authorized transfer, etc.

Audit Mechanism and Third-Party Verification: All contracts will be fully audited by a third-party security firm and verified using the Formal Verification tool.

At the same time, for common attacks such as Reentrancy, Oracle Manipulation, etc., the contract is equipped with protection logic and monitoring mechanism to ensure the security of funds and transactions.

5. Integration of fiat currency payment channel design

Although blockchain payment has the advantages of decentralization and transparency, if it cannot effectively connect with the real-world fiat currency system, it will be difficult to be implemented in daily life. Therefore, PAPY takes the bridge between "on-chain crypto payment" and "off-chain fiat settlement" as the key construction direction, and realizes a full-scale fiat-cryptocurrency fusion payment solution through stable currency integration, access gateway, and compliance mechanism.

5.1 Stablecoin (USDT/USDC) Bridging and Real-time Settlement

Stablecoin is the most directly linked value medium with fiat currency in the blockchain world. PAPY natively supports various mainstream stablecoins such as USDT, USDC, EURC, etc., and realizes the circulation agreement with PAPY tokens with the following features:

Stablecoin Instant Payment Conversion: Users can choose to pay in USDT/USDC, and the system will automatically settle the payment into PAPY or stablecoin received by the merchant to ensure price stability.

Stablecoin Cross-Chain Bridging: Built-in cross-chain module supports Ethereum, Polygon, BNB Chain, Arbitrum and other major on-chain stablecoins, providing the best Gas cost and speed.

Real-time Price Synchronization and Slippage Protection: Synchronize market prices with Chainlink and other prediction machines to prevent users from being affected by drastic price fluctuations when trading.

This stable-currency bridging system allows the PAPY ecosystem to have an operational fiat equivalent standard, lowering the barrier to entry and boosting users' confidence in making payments.

5.2 Fiat On/Off-ramp

In order to allow users to conveniently convert fiat currency to PAPY or stablecoins, or withdraw blockchain assets into cash, PAPY will build a complete Fiat

On/Off-ramp network with global trusted payment gateway providers and cryptocurrency banks, with the following key elements:

On-ramp: Supports multiple payment methods such as credit card, bank transfer, Apple Pay, Google Pay, etc. to purchase PAPY or stable coins.

Off-ramp: Users can convert PAPY or USDT/USDC into local fiat currency and withdraw it to a bank account or virtual wallet (e.g. PayPal, LINE Pay).

Regional Payment Partners: According to the payment policies and preferences of different countries and regions, we establish in-depth cooperation with local legal and compliant payment service providers.

This mechanism will enable PAPY to be more than just an on-chain payment tool, with full real-world currency conversion capabilities to cover the needs of users and merchants worldwide.

5.3 AML/KYC Compliance Modeling (up and down the chain)

Implementing compliance measures in the payment system is a necessary condition for mainstream adoption, and PAPY uses a combined upstream and downstream approach to design the AML (anti-money laundering) and KYC (user authentication) models, with the following core design elements:

Compliance design on the chain:

-**Address Risk Detection System**: Integrate Chainalysis, TRM Labs and other chain risk assessment tools to detect suspicious wallet addresses.

-**Trading behavior monitoring module**: analyze abnormal trading patterns and determine money laundering risks.

-**Blacklist prevention mechanism**: Restrictions are placed on wallet interactions with known violators or sanctioned addresses.

Chained KYC models:

-**Hierarchical management of users**: According to the transaction amount and function usage, users are categorized into basic users, advanced users and institutional users, and KYC is implemented for the corresponding level.

Third-party authentication services: Fast real-name registration through authentication providers such as SumSub, Jumio, and others.

Data encryption and privacy protection: Zero-Knowledge (ZK) or homomorphic encryption is used to ensure the security and compliance of user identity information.

This model not only meets local regulatory requirements, but also maximizes user privacy and autonomy, ensuring that the entire payment process strikes a balance between compliance, security and user experience.

6. Handling fee optimization and chain stability mechanism

Gas fee and network stability are two key factors that determine user experience in the blockchain payment scenario. Traditional blockchain networks are often characterized by high fees, transaction congestion, and slow confirmation speeds, making it difficult for the public to consider them as a daily payment tool. PAPY, as a lightweight payment system, is committed to using technical means and design mechanisms to achieve an extremely low-fee and highly stable on-chain payment experience.

6.1 PAPY Trading Fee Model and Gas Offset Design

In order to lower the user threshold, PAPY adopts a "Hybrid Fee Model" that introduces PAPY tokens as an offsetting medium for Gas, and utilizes incentives and subsidies to achieve predictable, low-fluctuation transaction cost control.
Core Features:
Gas Discounts and Token Payments: Users can choose to pay their fees in PAPY tokens at a discounted rate (e.g., 30% off), which encourages token utilization.

Daily free trading quota: Provide a certain number of free trading times or quota for daily users to enhance the friendliness and initial usage power.

Merchant Gas Subsidy Mechanism: The platform can subsidize part of the transaction fees for participating merchants to reduce their access costs.

Batching: Consolidate small or sequential payments to reduce the number of chain operations and gas consumption.

This fee mechanism is designed to dramatically optimize the payment experience, bringing the difference in fees between paying with PAPY and traditional electronic payments close to zero.

6.2 Dynamic Rates and Micropayment Friendly Mechanisms

In daily payment, small and frequent transactions are very common (e.g., beverage stores, public transportation fees, red packet transfers), and if the handling fee accounts for too high a proportion, it will seriously harm the user's willingness. In order to achieve this, PAPY introduces a dynamic rate model and a threshold subsidy system for micro-payment scenarios:

Mechanism design highlights:

Amount Proportional Billing Mode: Transactions below a certain amount (e.g. $5) automatically apply a lower Gas limit to avoid high handling fees.

Micropayment Gas Subsidy Fund: A community pool of funds to support the subsidization of handling fees for specific scenarios (e.g., transportation payments) to increase the frequency of application.

Behavioral Reward Feedback: For high-frequency and consistent users, fee reimbursement points are offered that can be used to offset future transactions or redeemed for benefits.

Handling Fee "Lock Mode": Allows merchants or users to lock in a preset rate for a specific period of time to avoid sudden increases in handling fees due to network congestion.

These initiatives not only improve payment efficiency, but also make micropayment scenarios a bright application area for PAPY.

6.3 Chain Load Stress Handling and TPS Optimization Direction

High-performance blockchain systems must have the ability to handle a large number of concurrent transactions, otherwise they will face performance bottlenecks in real business scenarios (e.g., restaurant rush, holiday red packet wave). PAPY achieves high TPS (transactions per second) and stable low-latency on-chain performance through technology selection and scaling strategies:

The technology strategy contains:

Support for Layer 2 protocol integration: Combine with scaling solutions such as Arbitrum, Optimism, zkSync, etc. to reduce transaction stress while maintaining security.

Modular chain support (e.g. Celestia, Fuel): In the future, we will consider building a dedicated modular chain to handle only payments and small transfers to improve resource efficiency.

Mempool's pre-installed priority processing mechanism: Enhance the success rate of real-time transaction confirmation through transaction categorization and prioritization system.

Node Distributed Optimization: Work with multiple global node operators to deploy payment nodes that reduce latency and increase network fault tolerance.

With the above technology and architecture design, PAPY enhances the availability of chain transactions to a level comparable to that of traditional payment networks, providing a stable and reliable daily payment service for global users.

7. PAPY Token Economic Modeling and Governance

A successful blockchain payment system not only requires technical efficiency and stability, but also relies on the rational design of the token economic model and the sustainability of the governance structure.PAPY, as a lightweight token serving the public's daily payment needs, is committed to creating an economic ecosystem that **combines practicality, incentives and governance participation**.

7.1 Token Use: Payments, Rewards and Gas Replacement

The design of PAPY tokens emphasizes a "utility-oriented" approach, aiming to make tokens not only an asset, but also a **negotiable, discountable, and rewarding** payment tool.

Primary uses include:

Payment Tools: PAPY can be used for real-time payments in on-line or off-line scenarios, such as merchant scanner payments, bus rides, red packet transfers, and more.

Handling Fee Discount: When using blockchain payments, PAPY can be used as a substitute for Gas tokens to enjoy handling fee discounts and reduce transaction costs.

Ecological incentives: The platform will provide PAPY as a reward for active users, business partners and developers to encourage ecological participation.

Loyalty Programs and Discount Points: Can be integrated with merchants as membership points for discounts, rewards or on-site offers.

7.2 Token allocation, unlocking and circulation planning

To ensure a reasonable supply of tokens and healthy development of the market, PAPY employs a long-planned issuance and release model that ensures a balance between fair distribution and ecological incentives.

PAPY has a total of **1 billion** tokens and is designed to support the long-term development of the program and community participation. The following distribution strategy emphasizes decentralization, long-term participation, and healthy market development to build a solid foundation for the PAPY payment ecosystem.

IEO (Initial Exchange Offering): 20%

As the primary source of initial circulation, this helps accelerate token listing, attract early supporters, and enhance overall ecosystem liquidity and decentralization.

Ecosystem Incentives & Community Building: 30%

Allocated to reward users, merchants, node participants, promote payment applications, and expand the community—supporting sustained usage and growth.

Team & Advisors: 20%

Used to incentivize core team members and advisors. Tokens will be subject to long-term vesting and scheduled unlock mechanisms to align with the project's long-term value.
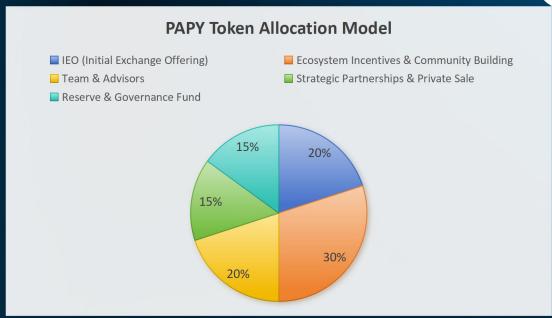
Strategic Partnerships & Private Sale: 15%

Distributed to early partners, resource-based investors, and industry alliances to support technology integration and ecosystem expansion.

Reserve & Governance Fund: 15%

Reserved for future protocol upgrades, risk management, and decentralized governance, ensuring resource flexibility and long-term development potential.

PAPY Token Allocation Model

- IEO (Initial Exchange Offering)
- Team & Advisors
- Reserve & Governance Fund
- Ecosystem Incentives & Community Building
- Strategic Partnerships & Private Sale

7.3 Buyback Destruction and Value Stabilization Strategies

In order to maintain the health and long-term value of the token market price, PAPY will implement **a buyback destruction mechanism** and other value stabilization strategies:

Specific measures include:

Transaction Fee Portion for Repurchase: A portion of each payment transaction made using PAPY is withdrawn for market repurchase.

Periodic Destruction Mechanism: The repurchased tokens are periodically destroyed by smart contracts to reduce the supply in the market.

Fluctuation Buffer Fund: A stabilization fund established to intervene in the event of abnormal market fluctuations.

Merchant Reward Redemption Mechanism: Allow merchants to redeem PAPY at a discounted price as a reward for customers, forming tokens for re-circulation.

Together, these strategies form PAPY's "value cycle system," ensuring a stable demand base and recovery mechanism for the token.

7.4 Project Governance Mechanism and Community Engagement Model

PAPY implements a **Semi-DAO** framework, which retains the efficiency of early promotion while gradually introducing a governance model of community participation:

Governance design included:

Governance tokens = PAPY itself: Holding a PAPY represents governance weight and allows you to participate in proposals, voting, and decisions about the use of funds.

Proposal system: Any user with a certain threshold of PAPY can initiate a proposal covering the use of funds, upgrade programs, incentive distribution, etc.

Community Voting Platform: The platform will be uploaded with a governance voting module, providing a UI-friendly voting interface and lowering the threshold of participation.

Contributor reputation mechanism: Introduce a reputation system to encourage community contribution (e.g. content creation, merchant promotion), with high reputation holders having higher voting rights.

With the gradual expansion of the ecology, the PAPY project will be gradually transformed into a governance structure led by the DAO community, truly realizing the development vision of **user-driven and community governance**.

8. Application Scenario Expansion: Combining Up and Down the Chain

PAPY, as a blockchain-based digital payment token, has the core objective of realizing a "daily, easy and global" payment experience. In order to achieve this goal, PAPY's application scenarios cover not only the off-chain transactions in the traditional payment field, but also the decentralized application scenarios unique to blockchain. Below are some of the major application scenarios:

8.1 Payments for Retail Entities and Restaurants

PAPY's blockchain payment system effectively solves the problems of high transaction fees and long settlement cycles found in traditional payment platforms, especially in the retail and restaurant industries, which require efficient and low-cost

payment solutions. Merchants can easily accept PAPY payments by integrating a simple scanner or POS terminal. Whether it's a quick service restaurant, supermarket or large retailer, PAPY provides instant transaction confirmation and transparent settlement process, and greatly reduces the reliance and cost of third-party payment platforms.

8.2 Public Transportation and Shared Mobility Payments

With the development of smart cities and the sharing economy, PAPY can also provide convenient payment solutions for public transportation and shared mobility (e.g., shared bikes, taxi services). Users can use PAPY to make instant payments when paying for a ticket, punching a taxi card, or renting a shared bike, realizing low-cost, real-time settlement. Due to the high efficiency of blockchain, PAPY can reduce transfer delays in traditional payment systems and provide faster transaction processing for both users and merchants.

8.3 NFT Event Ticketing and Online Web3 Subscription

With the rapid growth of the NFT and Web3 space, PAPY will also be able to be used for payments for NFT tickets and other digital assets. PAPY's payment system will be deeply integrated with the NFT Marketplace and Web3 platform, supporting users to use PAPY as a payment tool when purchasing NFT art, attending exclusive events, or subscribing to Web3 services. The decentralized nature of blockchain ensures transparent and secure transactions and provides seamless cross-chain settlement capabilities.

8.4 Small Transfer and Cross-Border Web3 Remittances

PAPY can be used for daily small-value payments, such as inter-family remittances and international transfers. Due to the decentralized nature of blockchain technology, the PAPY payment system will significantly reduce remittance handling fees and shorten the time required for cross-border payments. Especially in the field of global-oriented immigrant groups and cross-border commerce, the fast and low-cost cross-border remittance service provided by PAPY will change the cumbersome process of the traditional banking system and bring a more convenient global payment experience.

8.5 Payments and Rewards in Decentralized Apps (DApps)

The rapid development of the Web3 domain has led to the emergence of decentralized applications (DApps) as an important part of the digital economy, and PAPY tokens play an important role in decentralized applications, especially in the fields of decentralized finance (DeFi), decentralized content creation platforms, social media, and video platforms, etc. PAPY can be used as a payment tool within DApps to support users' rewarding, investment, and purchase of virtual goods, and provide a new revenue model for developers. PAPY can be used as a payment tool within the DApp to support users to reward, invest, buy virtual goods, etc., and provide developers with a new revenue model. In addition, PAPY can also support decentralized governance and serve as an incentive token for DAO internal voting and decision-making.

8.6 Cross-domain applications and future development

With the development and popularization of blockchain technology, the application scenarios of PAPY will be further expanded. In the future, PAPY tokens will be integrated with more industries to support payments and donations in the fields of healthcare, education, and charity. These areas will benefit from the transparency and efficiency of blockchain, enabling faster, safer, and lower-cost transactions. In addition, PAPY will also support payment functions for Internet of Things (IoT) devices, providing payment support for future areas such as smart homes and unmanned driving.

9. Ecological Cooperation and Infrastructure Integration

PAPY's success depends not only on its own technological strengths, but also on building extensive partnerships and solid infrastructure support in the blockchain payment ecosystem. In order to promote the popularity and growth of the payment system, PAPY plans to deeply collaborate with various blockchain platforms, financial institutions, payment merchants, technology providers, and various participants in the Web3 ecosystem. Below are some of the key areas of PAPY's ecological partnerships and infrastructure integration:

9.1 Integration with decentralized wallets, browsers, payment protocols

To enhance user experience and expand the payment landscape, PAPY will integrate with major decentralized wallets (e.g., MetaMask, Trust Wallet), blockchain browsers (e.g., Etherscan), and applications that support cryptographic payment protocols. This will allow PAPY users to seamlessly make payments across platforms and utilize decentralized wallets for more secure and convenient transaction confirmation. At the same time, PAPY will also integrate with various blockchain payment protocols to further enhance the breadth and ease of use of its payment channels.

9.2 Merchant POS system and SDK packages provided

To accelerate PAPY's deployment to offline merchants, PAPY will provide a suite of supported POS systems and SDKs to help merchants quickly integrate their payment solutions. Merchants can start accepting PAPY payments by simply installing the corresponding devices or SDKs, realizing a seamless connection. This not only enhances the payment experience for merchants, but also extends the reach of PAPY payments and promotes the popularization of blockchain payments. As POS systems become more popular, PAPY's user base will continue to grow.

9.3 Layer 1/2, Stablecoin and Payment Gateway Providers

PAPY will actively seek collaboration with the blockchain protocol layer, especially with Layer 1 and Layer 2 solutions, to provide users with a more efficient

and lower-cost payment experience. By integrating with mainstream blockchain protocols such as Ether, Solana, Polygon, etc., PAPY will be able to provide payment services on a wider scale. In addition, PAPY will work with stable currencies (e.g. USDT, USDC) and cross-chain payment gateway providers to support fast, low-cost conversion between fiat and cryptocurrencies, thus further enhancing its market competitiveness.

9.4 Web3 Eco-Promotion, Community Collaboration and Co-branding Strategy

As a Web3 payment tool, PAPY will collaborate with various projects in the Web3 space to drive the popularity of blockchain payments in decentralized applications. This includes cooperation with Decentralized Finance (DeFi), NFT, marketplaces, etc. to provide users with a seamless payment experience, and PAPY will also actively promote community building to inspire more users to participate and contribute through active interaction and motivation with the community. In addition, brand co-branding and cross-border cooperation will also be part of the promotion strategy. PAPY expects to expand its market influence through cooperation with well-known brands and organizations.

10. Route Map and Future Upgrade Plans

PAPY's development roadmap is aimed at securing its leadership position in the blockchain payments space and transforming the potential of blockchain technology into realizable business value. As technology evolves and market needs change, our upgrade program will continue to be optimized and more innovative features will be introduced.

10.1 Technology and Ecology Milestones

The development of PAPY will be divided into the following major phases:
Stage 1: Product Design and Core Development (Q1 - Q2)
Complete the issuance of PAPY tokens and deployment of smart contracts.
Complete the preliminary design and testing of the payment system, and implement basic payment functions, such as merchant scanning payment and quick transfer.
Collaborate with major blockchain protocols (e.g., Ether, Polygon) for infrastructure build-out.

Stage 2: Marketing and Ecological Integration (Q3 - Q4)

Expand merchant partners and promote application scenarios in retail, food and beverage industries.

Enhance integration with decentralized wallets and browsers to promote a seamless cross platform payment experience.

Introducing stablecoin support for fast conversion of fiat currency to cryptocurrency.

Stage 3: Global Expansion and Technology Upgrade (Year 2 - Year 3)

Expanding demand for cross-border payments in international markets, particularly in Southeast Asia, Europe and Latin America.

Supports more efficient Layer 2 solutions to optimize transaction speed and reduce costs.

Promote DAO policy design, establish decentralized governance structure, and enhance community participation.

10.2 Support for new technologies (e.g. ZK Rollup, Account Abstraction)

To enhance PAPY's scalability and performance, we will be introducing advanced technologies such as ZK Rollup in future releases. These technologies will help increase transaction throughput, reduce handling fees, and support more sophisticated smart contract functionality, enabling more efficient and secure payment solutions.

10.3 Global Marketing Strategy and Regional Node Deployment

PAPY's global expansion will be deployed in phases based on market demand. Initially, we will focus on Asia and Europe, which have strong demand and potential for digital payments. As the payment system is gradually improved, we will deploy more regional nodes to enhance the efficiency and reliability of global transactions.

10.4 Sustainable Governance and the DAO Model Advancement Program

The PAPY project plans to implement decentralized governance (DAO) in the future, allowing community members to participate in the decision-making process of the project. By introducing governance tokens and a proposal mechanism, we will achieve true community leadership and ensure that the project is developed in line with the interests and needs of the users.

Appendix: Disclaimer

The contents of this White Paper are for information purposes only and do not constitute investment advice or a recommendation to anyone. Before using any of the information contained herein, please be sure to read it carefully and understand the risks described therein. While we endeavor to provide accurate information and analysis, we cannot guarantee the completeness or accuracy of this information and accept no liability for any loss arising from the use of the contents of this White Paper.

The issuance and trading of PAPY tokens should not be considered a legal or regulated investment in financial instruments. We strongly recommend that all participants seek professional legal, financial or investment advice before engaging in any cryptocurrency transactions. The Program assumes no responsibility for losses that may be incurred due to market fluctuations, technical problems or other unforeseen circumstances.

In addition, the issuance and trading of PAPY tokens may be affected by the laws and regulations of each country, and participants should ensure that their behavior complies with the laws and regulations of the countries in which they are located.