BLANK WHITEPAPER

PRIVATE AMOUNT PAYMENTS ON ETHEREUM

Same chain. Same finality. Different visibility.

Blank keeps Ethereum settlement public and encrypts the commercial amount. Sender and receiver stay visible. Salaries, invoices, bids, contributions, and payment values do not.

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SUPPORTED TESTNETS	WALLET PERSONAS TESTED	PRODUCT SURFACES

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www.myblank.app

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Blank is amount privacy for normal payments.

Public blockchains make settlement transparent, composable, and easy to audit. They also expose payment amounts that businesses and individuals do not publish in traditional finance.

What stays public

Sender, receiver, chain, contract, transaction existence, and finality remain visible.

What becomes private

Amounts, balances, bids, payroll values, contributions, and thresholds are encrypted.

Blank is not a mixer. It does not hide counterparties. It encrypts the amount before it touches the chain, lets contracts compute over ciphertext through Fhenix CoFHE, and grants decrypt access only to permitted parties.

> **The transaction can be public. The amount does not need to be.**

Current testnet status

Live on Base Sepolia and Ethereum Sepolia, with standard EVM wallet connections and Blank passkey smart accounts when sponsorship is available.

Public scope

Public testnet app, supported chains, wallet paths, and product surfaces.

1

Public payment rails expose commercial data.

Ethereum makes payments verifiable because every field is visible. That is useful for auditability. It is a poor default for payroll, invoices, vendor payments, fundraising, and commerce.

USE CASE	WHAT LEAKS ON A PUBLIC CHAIN
Payroll	Employee salaries and contractor rates.
Invoices	Customer spend, vendor pricing, and margin clues.
Vendor payments	Supply chain and operating cost maps.
Fundraising	Donor size, goal progress, and failed campaigns.
Storefronts	Purchase prices, buyer behavior, and seller delivery channels.
Treasury operations	Balance thresholds, run rate, and capital movement.

Blank changes the default for amounts while preserving the settlement properties that make Ethereum valuable.

Design goal

Keep public settlement, public counterparties, and contract composability.

Privacy boundary

Hide the amount from bystanders without hiding who paid whom.

2

Public counterparties. Private amounts.

Blank uses a narrow privacy model: sender and receiver are public by design, while the amount and balance state are encrypted.

FIELD	VISIBILITY
Sender	Public
Receiver	Public
Chain, contract, timestamp	Public
Amount	Encrypted
Balance	Encrypted
Threshold result	Public only when explicitly revealed or proved.

Not a mixer

Blank does not hide transaction relationships.

No token

No BLANK token, no points system, no yield loop.

Composability

Apps can use the payment rail without learning plaintext values.

This posture is closer to bank-account privacy than sender-anonymity systems: counterparties remain traceable, but commercial amounts are not published to every observer.

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Contracts compute over ciphertext.

Blank uses Fhenix CoFHE to verify encrypted inputs, store ciphertext handles, and run contract logic without revealing plaintext amounts.

1. **User enters amount**
   The plaintext starts in the browser.
2. **Browser encrypts**
   TFHE WASM produces encrypted input and proof material.
3. **CoFHE verifies**
   The threshold network signs verified ciphertext.
4. **Contract computes**
   FHE.add, FHE.eq, FHE.gte, FHE.gt, and FHE.select operate on ciphertext.
5. **Permitted parties decrypt**
   Access is granted through FHE permissions, not public plaintext.

> **The chain enforces the rule. The public never sees the amount.**

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A payment surface for real workflows.

Blank applies one encrypted vault model across personal, business, creator, marketplace, and fundraising flows.

Send Invoice Request Payroll Gifts Groups Proofs Claim links Storefront Crowdfund Escrow Swap Bridge P2P exchange

Business flows

Invoices, payroll, escrow, payment requests, and private vendor settlement.

Public-link flows

Claim links, storefront listings, crowdfunds, proof URLs, and escrow detail pages.

Commerce flows

Fixed price listings, pay-what-you-want, sealed-bid auctions, and seller-handled delivery.

Capital flows

Bridge, Swap, encrypted P2P exchange, and private amount transfers.

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One encrypted vault. Many payment shapes.

Blank separates the encrypted balance primitive from the product surfaces that route user intent into it.

Frontend

React, Vite, wagmi, viem, FHE pipeline UI.

Wallet layer

Standard EVM wallets, passkey smart accounts, ERC-4337, paymaster path.

Contract layer

Vault, hubs, claim links, storefront, crowdfund, escrow.

Data layer

Chain as source of truth, Supabase for cache and notifications.

Core contracts

FHERC20Vault	Encrypted balances, shield, unshield, transfer.
PaymentHub	P2P sends, requests, batch sends.
BusinessHub	Invoices, payroll, and business payment flows.
ClaimLinks, Storefront, Crowdfund, Escrow	Public-link and commerce surfaces.
BlankAccount, BlankPaymaster	Passkey smart accounts and gas sponsorship path.

Supabase stores user-facing cache and notifications. Settlement and encrypted state remain chain-authoritative.

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Clear privacy boundary. Conservative mainnet posture.

Blank hides

- Payment amounts
- Encrypted balances
- Contribution sizes
- Bid amounts
- Payroll and invoice amounts

Blank does not hide

- Sender address
- Receiver address
- Contract address
- Chain and timing
- Transaction existence

Safety patterns

- FHE.select avoids leaking information through plaintext-style reverts.
- Reentrancy guards protect money-moving surfaces.
- UUPS storage layout checks guard upgradeable contracts.
- Domain-separated hashes protect claim-link modes.
- Threshold-signed decrypt results protect async decrypt flows.
- FHE ACL grants are scoped to the actor or contract that needs access.

Mainnet gates

Blank is testnet-only today. Mainnet requires third-party audit, Fhenix mainnet readiness, threshold operator decentralization, production monitoring, and mainnet-grade relayer and paymaster operations.

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Live on Base Sepolia and Ethereum Sepolia.

Blank is available on public testnets for builders, partners, and early users to evaluate private amount payment flows.

Live URL

www.myblank.app

Supported testnets: Base Sepolia and Ethereum Sepolia.

Wallets

Standard EVM wallets and Blank passkey smart accounts when sponsorship is available.

- Base Sepolia
- Ethereum Sepolia
- Standard EVM wallets
- Passkey smart accounts
- Bridge and Swap
- P2P exchange create and fill
- Invoice, escrow, payroll
- Public-link surfaces
- Mobile route-map UI

Roadmap

- Keep standard EVM wallet flows stable on both supported testnets.
- Expand mobile transaction coverage beyond route sweeps.
- Improve account switch and realtime recovery behavior.
- Continue hardening public links, storefront, crowdfund, and escrow.
- Publish mainnet risk disclosure before real funds are supported.

> **Ethereum made payments public by default. Blank keeps public settlement and encrypts the commercial amount.**