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Receiz

PROOF-NATIVE ARTIFACT SYSTEM - COMPLETE SOFTWARE BRIEF

Receiz v89.0.0

Complete Software Brief

A repo-grounded system document for the proof-native artifact platform: what it is, how it works, what it contains, how large it is, and why it matters.

4,085	1,545,926	1,024,991	414
Tracked files	Tracked text lines	Primary source lines	API route files
git ls-files	full text inventory	app/scripts/db/zk/services	Next route handlers

Thesis

Receiz is a proof-native artifact system where files, identities, ownership states, settlement states, public witness surfaces, and verification routes are named and protected as implemented primitives. Server state syncs and distributes truth; it does not outrank sealed proof, deterministic object state, verified local truth, or deterministic first paint.

Release evidence: HEAD e5f3acd2d4 - v89.0.0. Package version 89.0.0. Full release-freeze passed on June 13, 2026.

1. Executive Read

The short version someone should understand before they inspect the code.

Receiz turns digital things into proof objects. Originals, cards, passports, certificates, settlement notes, wallet positions, identity records, world-twin actions, live-player surfaces, and public profiles carry deterministic identity, proof material, ownership/custody state, provenance, and verification behavior.

The server is not the truth boundary. Sealed artifact truth, embedded proof, deterministic object state, verified local truth, and verified appends outrank server append, DB/session state, UI cache, and generic app convention.

First paint is product law. Known verified truth must appear immediately; sync, indexing, hydration, analytics, session checks, metadata, and DB refreshes can only append behind it.

The codebase is not a prototype. It includes Next app surfaces, API routes, Supabase migrations, proof/verifier runtimes, offline verifier files, market/wallet settlement logic, games, world-twin systems, governance evidence, conformance gates, and release-freeze automation.

v89 locks the June 2026 publish regression. Anchor requests stay out of generic local signed-action outbox logic, profile publish/global sync contracts stay explicit, and Sports Vault public URLs now use the deterministic default username for brand-new accounts.

What someone owns	Receiz primitive	Why it matters
Original file / media	Proof object	Verifies from bytes and proof material even outside one app session.
Profile showcase item	Public proof surface	Globally legible proof with profile, media, and live-player continuity.
Card / Passport / certificate	Vault object / artifact system	Ownership, provenance, transfer, sale, verify, and inspect are native actions.
Wallet / market state	Settlement primitive	Funded value, Reserve, certificates, notes, and trades stay tied to proof-native state.
Receiz ID / PBI / Identity Seal	Identity primitive	Recovery and account continuity are proof-bearing, not merely a login mechanic.

2. Codebase Scale

Line-count accounting from the current tracked worktree.

4,085
Tracked files
all git tracked files

3,577
Tracked text files
87.6% of files

508
Binary/artifact files
assets, PDFs, zkeys, media

1,545,926
Tracked text lines
full text inventory

2,780
Primary source files
app/scripts/db/zk/services/src

1,024,991
Primary source lines
authored runtime and contracts

31,540
Documentation lines
250 docs files

75,092
Test/contract lines
344 test files

Primary source by language

Language	Files	Lines
TypeScript	1,617	465,112
React TypeScript	761	341,775
CSS	130	147,958
SQL	217	48,790
Node ESM	26	13,262
Python	9	5,301
JavaScript	10	1,643
Shell	5	642
Swift	1	246
Solidity	1	161

Largest source domains

Domain	Files	Lines
app/lib	722	253,984
app/components	435	174,375
app/api	436	103,834
app/game	117	101,980
app/u	21	53,431
supabase	213	48,370
app/utils	86	28,979
scripts	91	27,605
app/world	17	24,864
app/[profile]	33	23,650

3. Route And API Surface

Receiz is a multi-surface product, not one page wrapped around proof.

178	414	93	93
Page routes	API routes	Open Graph routes	Twitter routes
Next App Router pages	server route handlers	share/proof cards	social proof cards

Largest API route families

API family	Route files
game	79
world	41
profile	29
market	26
chat	23
auth	19
public-proof	15
admin	14
receiz	14
connect	11
pbi	11
wallet	11
oidc	10
wireproof	10

Profile/original routes cover canonical profile truth, media, variants, uploads, downloads, ownership, visibility, live player, and manifest projection.

Receiz routes cover anchor, attachments, copy, download, metadata, mint, seen, signed download/render, ownership claim/transfer, and ZK paths.

Market and wallet routes cover positions, predictions, shares, certificates, twin mandates, note mint/claim/download/status, funded checkout, and public ledger state.

Game routes cover Signal Run, Sports Arena baseball/soccer/UFC, packs, vaults, trades, event proofs, live feeds, appends, tournaments, and conformance.

World routes cover live twin, avatar generation, backend render/TTS, campaigns, concierge, public profiles, world trail actions, and conformance.

4. Product Law And Truth Hierarchy

The software has a declared authority model.

Highest rule

Receiz is not a generic app with proof features. Receiz is a proof-native artifact system. External conventions can help implement mechanics; they cannot define Receiz truth.

Authority rank	Truth layer
1	Receiz law and product invariants
2	Sealed artifact truth / embedded proof
3	Deterministic proof object state
4	Verified local truth / durable local truth
5	Verified register block / verified append
6	Authenticated snapshot
7	Server append / global sync
8	DB/session state
9	UI cache / temporary render state
10	External references for mechanics only
11	Generic app convention

A weaker layer may decorate, sync, index, hydrate, display, or append to stronger truth.

A weaker layer must never replace, erase, rename, delay, or visually downgrade stronger truth.

Durable local truth is not cache. Offline proof is not fallback. Public proof surfaces are not generic share pages.

Visual evidence can overrule a claimed pass. Passing tests cannot ratify a visually broken primitive.

5. Primitive Atlas

The implemented product primitives and their acceptance boundaries.

Primitive	Acceptance boundary
Proof object	Deterministic identity, verifiable/sealed payload, inspection behavior, durable state, stronger source of truth.
Vault object / artifact system	Proof identity, visual identity, custody, media/payload, provenance/history, actions, public/private legibility.
Ownership surface	Owner/custody state, provenance/history/source, action affordance, and precise ownership/custody/settlement language.
Settlement primitive	Reserve, certificate, note issue value, funded purchase, payout, refund, buy, sell, or governed transfer state.
Identity primitive	Receiz ID, PBI, sealed identity files, account continuity, recovery, proof-bearing login, device/person continuity.
Public proof surface	Public presentation of proof object, provenance, ownership/custody, verification, source, shareability, witness state.

Implemented primitives visible in the repo

Layer	Implemented primitives
Artifact/proof	Original bytes, proof bundle, artifactSha256Basis, deterministic manifest, verified prefix, verified additions, object proof evidence, live player.
Identity	Receiz ID, PBI/passkey proof, Identity Record, Identity Seal, Receiz Key, identity-key import/export, Receiz ID binding, session issuance.
Ownership	Vault objects, current owner, ownership provenance bundle, transfer proof, collection status, card/certificate/passport ownership surfaces.
Settlement	Wallet value states, Reserve, Settlement, certificates, notes, funded buy/sell, market positions, payouts, refunds, trade settlement.
Public witness	Profile showcase, public proof registry, verified artifact routes, live player, QR provenance, conformance badges, governance artifacts.

6. Original Publish And Global Sync

The path that caused the June regression is now explicitly locked.

Composer seals uploaded media locally before server/stream handoff and names deterministic proof sealing instead of server sealing.

The foreground /api/receiz/anchor route must return a readable response and must not be admitted into generic local signed-action/outbox response handling.

A profile post is globally complete only when canonical visible profile snapshot, public profile market append source, and local route snapshots are appended/refreshed.

Image variant failures are non-authoritative beneath proof publication. Variants can enrich media; they cannot decide whether proof exists or publishes.

Public profile first paint projects deterministic rollups and canonical profile truth. The manage=1 owner query layers permissions over the same canonical surface.

v89 issue	Exact root	Lock
Unreadable anchor response / could not anchor memory payload	Foreground anchor path was allowed to enter generic local signed-action/outbox handling.	Anchor route is excluded from local signed outbox classification and contract-protected.
Posted proof disappeared after refresh	DB row/local view alone was not a complete public profile/market projection.	Profile publish global sync contracts assert showcase, market append source, and local snapshots.
New account Sports Vault URL fell back to opaque card path	Saved username was the only human public-vault route input.	Default username projection from Receiz email/uid is now used for new accounts.
Build OOM in release freeze	Next webpack build hit default V8 heap ceiling.	Checked-in build script runs Next with explicit 8GB heap.

7. Identity Continuity

Receiz ID and PBI are identity primitives, not a generic login feature.

PBI/passkey recovery proves the legacy account. Receiz ID proves local device/person continuity. Binding those proofs is an idempotent append, not session issuance.

/api/auth/receiz-id/bind must not depend on Redis or replay-guard storage. Replay guards belong on session issuance/switching paths, not recovered-account binding.

Identity Record, Identity Seal, and Receiz Key restore create the same signed-in experience as PBI/passkey recovery after proof acceptance.

Local restore projects immediately; import/bind/sync jobs cannot keep the UI half-logged-in.

Session, local proof, offline identity session, active binding, unsupported-primary-device handling, and account switch continuity are all contract-covered.

Implemented path	Purpose
app/api/auth/receiz-id/bind/route.ts	Append Receiz ID binding to a PBI-proved/recovered account without Redis replay dependency.
app/lib/auth/offlineIdentitySession.ts	Durable local proof-backed session projection.
app/lib/auth/localIdentityBindingRegister.ts	Local verified identity binding register.
app/lib/auth/receizAccountBindings.ts	Active account binding and session projection.
app/lib/session/bootstrapHydration.ts	Session bootstrap snapshot used beneath stronger identity truth.

8. Market, Wallet, And Settlement

The economy is proof-native value state, not generic balances.

Settlement names proof-native value. Reserve names funded fiat/cash backing. Certificates, notes, buys, sells, refunds, payouts, and transfers carry governed value state.

Market first paint is the deterministic market proof object and cannot wait on session lookup, DB refresh, profile scans, global sync, or snapshot reconstruction.

Executed buys and sells patch the loaded graph before background refresh. A lagging snapshot cannot reopen a locally closed position.

Wallet surfaces lead with one account value while lane detail stays behind execution/proof details.

Value-loop guard, market conformance, economy conformance, wallet value-state tests, and funded-liquidity contracts are in release-freeze.

Surface	Primitive truth
Market positions	Deterministic ownership/settlement projection, public live mark, funded liquidity, share graph.
Wallet	Settled value states, Reserve lane, Settlement lane, note status, ledger and public ledger surfaces.
Certificates	Buyer-funded certificate balance, partial balance, export/import, public buy/sell links, note events.
Twin mandate	Market twin saved mandate truth hydrates without overwriting active edits.
Predictions	Binary contracts, execution guards, finalization, votes, wagers, and conformance history.

9. Game And Collectible Proof Economy

Signal Run, Sports Arena, Series Passport, and card vaults are proof objects.

Signal Cards are portable verified collectibles with separated achievement truth, deterministic director state, card economy scarcity, vault appends, market pressure, auctions, and transfer/download routes.

Sports cards carry sealed base card truth, issue numbers, rarity, player identity, scoring memory, provenance, ownership, vault images, transfers, trades, QR routes, and live market book.

Sports Arena Main Event entries are settlement primitives: lineup lock, single-game proof, live/final scoring, closeout, refunds, payouts, and stale-lock cleanup.

Series Passport is a proof object carrying access, ownership, proof image, verification, Series admission, public sharing, and referral integration.

v89 locks new-account Sports Vault public URLs to deterministic default username when no saved username exists.

Area	Evidence
Signal Run	128/128 game release contracts include Signal Run route, card, scarcity, vault, market, and seal tests.
Sports Arena	Baseball, soccer, UFC, live feeds, appends, trades, vault showcase, packs, tournaments, QR, transfer, and event media contracts.
Series Passport	Passport register, file import, Series simulator, payout math, admission, referral sharing, and public proof routes.
Sports Vault	Human owner route /vault/{sport}/{username} backed by stable per-owner vault id, including default username projection.

10. World, Communications, And Live Twin

Receiz also carries operational proof and owned live presence.

World live twins carry deterministic public profile views, avatar render freshness, photoreal shell contracts, live sessions, browser speech fallback, streaming voice, public profile chat, trail actions, campaigns, concierge, Win Room, and ROI surfaces.

World routes distinguish public safe views from internal persona, owner identifiers, private source fields, and generation details.

Communication routes cover conversations, messages, calls, notes, participants, SFU sessions, transcripts, moderation, exports, transfers, and Receize actions.

Contacts, campaigns, autopilot briefs, outreach, and follow-up defaults are operational surfaces beneath the proof/identity/settlement hierarchy.

World conformance, world release contracts, chat call quality, and topology policy are part of the release-freeze gate.

World primitive	Concrete capability
Public twin profile	Safe public view, live reply stream, booking, world trail, public receipt payload.
Avatar/live stage	Fresh saved render, face feature authority, photo-derived rig, shell motion, viseme mouth, blink cadence.
Campaign/autopilot	Approval queue, email default, revenue attribution, Sales Brain, Win Room loop.
Concierge/toolbelt	Recoverable statuses, setup/approval actions, direct streaming path.

11. Governance And Release Quality

The release path is a contract suite, not a manual vibe check.

75	41	213	344
Package scripts	Release-freeze commands	Supabase migrations	Test files
automation surface	end-to-end gate	48,370 SQL lines	75,092 lines

Gate family	What it protects
release:lock	Package version, release docs, public version surfaces, service worker version surfaces.
lint/build/perf	Static code health, production build, bundle budgets.
deterministic / visual / primitive	Product law, no visual downgrade, no external authority drift.
artifact / document / security	Proof, offline verifier, signatures, API security, failure behavior.
game / profile / market / value	Primitive-specific product contracts across shipped domains.
governance	Document controls, evidence cadence, signed public governance artifact manifest.

v89 release-freeze result

Full pnpm test:release-freeze passed on June 13, 2026. The signed governance artifact manifest verified with active key receiz.governance.ed25519.8c0d360c4c119c6b.

12. v89 Release Arc

What changed since v88 and what got locked.

Release metric	Value
Current HEAD	e5f3acd2d4 - v89.0.0
Package version	89.0.0
Commits since v88.0.0	170
Diff since v88.0.0	380 files changed, 75359 insertions(+), 4701 deletions(-)
Release docs	v89.0.0.md, product-truth, process, checklist, regression lessons, commit history.

The anchor regression was introduced when local signed-action/outbox logic became broad enough to touch the foreground /api/receiz/anchor path. v89 locks the anchor path out of that weaker queue.

Profile publish/global sync law is now explicit: DB insert/update alone is not public profile truth, market membership, or cold-market proof truth.

Sports Vault public URL law is now explicit for new accounts: saved username first, deterministic default username from Receiz email/uid second, opaque card path only when no public username can be formed.

Kai-Klok frozen hash was restored when a haptics helper had changed frozen EternalKlock.tsx; the freeze guard again verifies all 25 frozen files.

Governance quarterly evidence cadence was refreshed for June 13 and the public governance manifest was re-signed.

13. Why It Matters

The significance is the combination, not one isolated feature.

Generic software usually does this	Receiz does this
Server/session is the truth boundary.	Sealed proof, deterministic object state, verified local truth, and verified appends outrank server/session.
Offline is degraded fallback.	Offline verification is a primary proof primitive.
A post exists when a DB row exists.	A profile proof is globally complete only when public profile, market append, and visible route snapshots are projected.
Ownership is account UI.	Ownership is custody/provenance/settlement/action state bound to proof objects.
Balance is a number.	Settlement, Reserve, note, certificate, funded event, payout, and transfer states are named primitives.
Auth is login.	Receiz ID/PBI/Identity Seal/Receiz Key are identity continuity primitives.
Tests are optional confidence.	Release-freeze encodes product law, visual law, primitive binding, conformance, governance, and build gates.

One-sentence read

Receiz is a system for making digital objects, identity, ownership, settlement, and public witness state carry their own proof and remain useful when a server, session, cache, marketplace convention, or app shell is not the highest source of truth.

14. Evidence Appendix

Repo-local evidence used for this PDF.

Evidence area	Source
Product law	AGENTS.md and docs/literal-product-law.md plus linked doctrine documents.
Release truth	docs/releases/v89.0.0*.md and package/public version surfaces.
Code metrics	git ls-files plus UTF-8 line counting by extension and source root.
Routes	Next App Router page, route, opengraph-image, twitter-image, and loading files.
Contracts	package.json scripts and scripts/test_release_freeze.ts.
Governance	docs/governance/*, public/governance/*, signed artifact manifest, evidence register.
Visual/PDF check	Generated PDF rendered through pdftoppm and inspected as PNG output.

Release-freeze command list

win32, pnpm.cmd, pnpm, release:lock, lint, test:product-surface-inventory, test:kai-klok-freeze, test:v70-invariant-register, test:deterministic-surfaces, test:page-first-paint, test:visual-evidence-contract, test:primitive-binding-contract, test:repo-only-reasoning-boundary, build, test:artifact-binding, test:document-seal, test:document-seal-zk, test:world-trail-package, test:release-golden-path, test:contacts-release-contracts, test:game-release-contracts, test:kiosk-release-contracts, test:lease-release-contracts, test:signature-v4, test:api-security, test:chaos-failures, test:value-loop-guard, test:economy-conformance, test:market-conformance, test:verification-conformance, test:world-conformance, test:signal-circuit-conformance, test:profile-release-contracts, test:world-release-contracts, test:chat-call-quality, test:chat-call-topology-policy, perf:budgets, governance:check, governance:evidence-check, governance:verify-artifact-signature, inherit

Boundary

This PDF is repo-local evidence, not outside market research.

It does not print secret values or private production data.

Line counts are current tracked worktree counts at generation time; future commits will change them.

The PDF summarizes the software; it is not a substitute for source code, tests, or doctrine docs.