



WHITE PAPERZ

VT: SportsPort

A level field for every athlete.

The youth-athlete eligibility credential: verified once by a person, checked in seconds with a scan, and carrying nothing about the child that a stranger could read.

\$VTSP · Soulbound ERC-721 (ERC-5192) · Polygon

Status: built and tested, not yet deployed to mainnet

Vivid Tokenz Studios, LLC · 12 September 2026

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1 · Overview

VT: SportsPort is a verified age-and-eligibility credential for youth athletes, issued on Polygon as a soulbound token. A trained verifier examines a family's documents once — a birth certificate, proof of enrollment, a guardian's consent — and writes a conclusion to the chain. After that, a league official at a gate scans the athlete's pass and gets a yes or a no in seconds, without the family handing over a birth certificate again.

It is the studio's first utility token: it does something before it is anything else. It is not a collectible, it cannot be traded, and it holds no value beyond the answer it gives.

At a glance

Credential	VT: SportsPort (\$VTSP)
Standard / chain	Soulbound ERC-721 (ERC-5192, Locked () always true) on Polygon
One per athlete	Keyed by an opaque 32-byte athleteId; never transferable
Validity	One year from issue or renewal, expiring 00:00 UTC the day after the anniversary
Launch price	\$14.99 first verification · \$9.99 renewal
Minimum documents	Birth certificate + school enrollment + guardian consent (floor: birth certificate + consent, fixed for life)
Launch rulesets	Sept 1 (AAU) · Aug 1 · Jan 1 (calendar year)
On-chain about the child	Nothing identifying — see section 3
Status	Contracts written and tested; not yet deployed (section 16)

2 · The problem at the gate

Every youth league asks the same question of every player: *is this child who they say they are, the age they say they are, and enrolled where they say they are?* Today the answer is a folder. A parent carries a birth certificate to a tournament, hands it to a volunteer, and gets it back — then does it again for the next league, the next season, the next tournament. The document that proves a child's age is the one document a family should be photocopying least.

SportsPort moves that reading to one place and one time. A verifier looks at the paperwork once; every gate afterward reads the conclusion. The family keeps the certificate at home.

3 · Nothing identifying goes on-chain

Polygon is public and permanent. Anything written there is readable by anyone, forever, and cannot be deleted when a parent asks or a regulator requires it. So the chain stores **conclusions**, never **evidence**:

Never on-chain	On-chain instead
Birth certificate image or data	A salted hash commitment the guardian can later open

Date of birth, any part of it	"League age N as of cutoff C" per ruleset, plus a Poseidon commitment to the date
Legal name	An opaque 32-byte <code>athleteld</code>
School name, student id, address	Grade level and graduation year only
Guardian identity	Nothing. The consent record lives off-chain

The pairing of an `athleteld` to a real child exists only in Vivid Tokenz's off-chain records, under the same duty of care as the documents themselves. An `athleteld` alone — or the whole chain's worth of them — tells an outsider nothing.

4 • Who is involved

Actor	Has	Does
Athlete	an <code>athleteld</code>	Is the subject. Needs no wallet.
Guardian	consent on file; the document salt	Uploads documents, consents, can open a commitment in a dispute.
Verifier	VERIFIER_ROLE	Examines documents off-chain; issues, renews and attests on-chain; sets league ages; may revoke. VTS staff at launch; leagues and schools can be added later.
Registrar	REGISTRAR_ROLE	Issues athlete codes off-chain; on-chain handles custody — the one-time claim transfer, and burn on an erasure request.
League official	a phone	Scans the pass, reads the SportsPort, gets eligible or not.
Verifier admin	VERIFIER_ADMIN_ROLE	Grants and revokes the verifier role, and nothing else — so onboarding a verifier never needs the owner's key.
Owner	DEFAULT_ADMIN_ROLE	Grants the registrar and verifier admin, manages rulesets, the document minimum and the base URI; may revoke any attestation.

5 • Identity

At signup the registrar mints a fourteen-character **athlete code** at random — Crockford's base32, which drops I, L, O and U so nothing is confusable when it is read aloud or typed off a receipt a year later. The code is what the family is given and what they type to renew. The chain stores its keccak256 hash as the **`athleteld`**.

The id is not derived from a name or a date of birth in any way, so there is nothing to brute-force, and it is random rather than sequential, so two athletes registered a minute apart share nothing. The code identifies; it does not authorise. Anyone holding one can look up an eligibility verdict, which is exactly what a league official at a gate is supposed to do, and nothing about the child sits behind it.

Rejected alternative: a deterministic id from salt, name and date of birth. It makes de-duplication easier and lets anyone holding the salt enumerate children by guessing names. De-duplication is done off-chain instead.

6 • The credential

A SportsPort is a soulbound ERC-721 — one per athlete — so it shows up in a wallet as a badge and nowhere else. Its lifecycle is deliberately short to describe:

- **Minted only after verification.** There is no "register, then verify" step on-chain. A verifier's issue call mints the token and records the first attestation in one transaction; if the verification data is invalid, nothing is minted.
- **Custodial by default.** It is minted to a Vivid Tokenz custodial wallet, because a nine-year-old has no wallet and should not need one.
- **Claimable once.** The registrar may move it a single time to a guardian- or athlete-controlled wallet when the family wants it. Holders can never transfer or approve it; marketplaces cannot list it.
- **Eraserable.** The registrar may burn it on a guardian's request. Burning deletes every attestation, league age, expiry, commitment and id mapping from storage; the off-chain record is deleted alongside.

7 · What an attestation says

An attestation is one verifier's signed conclusion about one athlete. The SportsPort holds a history of them; the newest unrevoked one is what a league sees. Each records which document types were examined, a salted hash of those documents, the grade and expected graduation year if attested, the school year they refer to, who signed, and when.

Document types

Bit	Meaning	Verifier examined
BIRTH_CERT	Identity and date of birth confirmed	Certified birth certificate, or passport
SCHOOL_ENROLLMENT	Enrolled at a school for the school year	Enrollment letter, report card, or school portal with the school's name
GRADE	Grade confirmed for the school year	Same documents as enrollment
GUARDIAN_CONSENT	A guardian consented to verification and the on-chain record	Signed consent form, kept off-chain

The floor and the minimum

The contract refuses to write any attestation below its minimum, and that minimum has two layers. The **floor** — birth certificate plus guardian consent — is a constant with no setter: identity and consent are what make the record defensible, and no league's roster policy is a reason to drop either. The **operative minimum** launches as birth certificate, enrollment and consent, and the owner may move it — never below the floor, never to a bit no document has — with an event that makes a relaxation visible as one. A homeschooled athlete, a family between districts, or a non-school league is a setting, not a new contract.

A grade requires the GRADE bit and vice versa; a graduation year requires enrollment and must be plausible against the school year — no earlier than the spring after the attested fall, no later than a kindergartner's — a range rather than grade-exact, so a retained or accelerated student the verifier has papers for is not refused.

8 · League age, not birth date

Leagues do not key on a date of birth; they key on **age as of a cutoff date**. AAU uses September 1, many leagues use August 1 or January 1, some baseball bodies use April 30. Storing any part of a birth date on-chain would let those be computed — and would be personal data.

So the contract stores no birth information. It holds a small ruleset registry the owner maintains, and the verifier — who has the real date in front of them — writes one integer per ruleset: the athlete's age as of that cutoff. Roughly 365 birth dates map to the same integer, which is coarse enough not to be identifying, and it is exactly the number leagues already print on rosters.

Launch rulesets	Sept 1 (AAU) · Aug 1 · Jan 1 (calendar year)
Stored per athlete, per ruleset	The age, and the season (cutoff year) it was computed for
Read at the gate	Only the age for the season most recently begun; anything else reads as unset, never as last year's number
Season lookahead	A verifier may stamp this season or the next (launches at 1; owner-settable 0–3, never higher)
New ruleset later	VTS re-attests from its own records — no new documents from the family

An age belongs to a season. A child who is 12 as of September 1, 2026 is 13 as of September 1, 2027, so the record carries the year it was computed against and expires on the calendar, not on the token. Verification happens before a season, not during it, so a verifier in August stamps the age as of the coming cutoff; the gate treats it as dormant until that day passes and then as simply correct.

9 · Commitments

The documents

The verifier computes keccak256 of the examined document bundle concatenated with 32 random bytes of salt. The salt goes to the guardian (and is kept by VTS); it is never on-chain. If a league ever disputes an attestation, the guardian produces the documents and the salt, anyone recomputes the hash, and the on-chain value proves those exact documents were what the verifier saw on that date. Without the salt the hash reveals nothing, and it cannot be matched against someone else's copy of the same certificate.

The date of birth

Beside the league ages sits a Poseidon commitment to the date itself, computed off-chain with a 31-byte salt. The date never appears on-chain and never will. What it buys: a league age stops being an assertion and becomes a claim with evidence — in a dispute the guardian opens the commitment, shows the date VTS was actually told, and anyone redoes the arithmetic. Poseidon rather than keccak because this commitment is meant to become a zero-knowledge circuit's public input one day, and changing the hash later would mean re-issuing every commitment.

Stated so nobody assumes otherwise: the contract cannot check that a commitment matches the league ages beside it, and no proof over it could either. A proof shows the arithmetic is right. That the committed date is the child's real date rests on a verifier having read a birth certificate, and always will. The commitment makes that reading auditable; it does not remove it.

10 · Validity, renewal, revocation

The SportsPort itself carries the expiry, not the attestation. On issue, and again on every renewal, the contract sets it to 00:00 UTC on the day after the same calendar date one year later: a SportsPort issued any time on 8 September 2026 is active through the whole of 8 September 2027.

- **Attest** adds an attestation inside the window — a corrected grade, a new ruleset — without touching the expiry. It reverts once expired.
- **Renew** requires a fresh attestation and starts a new one-year window from that moment. It is allowed before or after expiry, for families who re-verify early.
- **Revoke** applies to an individual attestation, is immediate and permanent, and may be done by any verifier or the owner. If every attestation is revoked the SportsPort is still active by date but reads as not eligible until a verifier attests again.

Grade and enrollment are only true for one school year, and a one-year SportsPort spans parts of two. Each attestation records the school year it refers to, so a gate can show "grade 4 (2026–27)" and a league can decide whether that is fresh enough. The one-year term makes renewal and re-attestation the same annual event, which is the point of it.

11 · At the gate

The QR on the athlete's pass resolves to a web page — not a wallet app — that makes one call:

```
isEligible(athleteId, rulesetId, minAge, maxAge, requiredDocs)
-> (eligible, leagueAge, graduationYear, grade, expiresAt)
```

The page shows, in this order: a green or red result, the league age for the chosen ruleset, grade and class year with the school year they were attested for, which document types were verified, who verified them, and when the SportsPort expires. It never shows a name. The official matches the face on the pass to the kid in front of them; that is the one step that stays human.

A partnered league does not type any of those parameters. The league registry holds what each division requires — ruleset, age band, document minimum — so a volunteer with a phone picks the division and never types a rule. The registry reads the live document minimum from the SportsPort rather than copying it, so a league can never be partnered below whatever the minimum is that day.

12 · Verifiers and quorum

At launch the verifiers are Vivid Tokenz staff. The role exists so that leagues and schools can hold it later, and it is administered by a separate verifier-admin role — meant for an operations wallet — so onboarding a verifier never touches the owner's key.

A multi-verifier **quorum** is built in and launches dormant at 1. Set to N (2 to 5), every affirmative write — issue, renew, attest, league age, date commitment — becomes an endorsement: validated in full, keyed by the hash of its exact arguments, and executed by the N-th distinct verifier making the identical call within the endorsement window (7 days at launch; 1 hour to 30 days). Revocation is never gated. Revoking a verifier's key withdraws every endorsement it gave that has not yet executed.

What it defends against is one dishonest or compromised verifier key. It does not defend against the verifier admin, who can grant fresh keys and meet any quorum alone — a quorum of three does not turn an ops-key compromise into a conspiracy, and this paper does not claim it does.

13 · Documents and consent

The chain side stays clean under section 3; the portal side carries the obligations. These are the rules the contract assumes, and every one of them is enforced in the application, not promised:

- A guardian gives written consent **before** documents are uploaded and before anything is written on-chain. Nothing is stored until they have said yes.
- Documents are encrypted the whole time they are held, and only trained verifiers can open a file.
- Every look at a file is written to an access log, permanently.
- Originals are deleted **30 days** after the attestation is written — and the date of birth goes with them. Deleting the image and keeping the date would delete the evidence and keep the fact, which is the wrong way round. The commitment and its salt survive, which is all a dispute needs.
- The date of birth is never published on-chain, in metadata, or on the gate page.
- COPPA applies to under-13s and FERPA restricts what a school may release, so the **guardian** uploads enrollment evidence, not the school — unless the school has signed on as a verifier.

Thirty days covers re-examining a decision — a dispute, a correction, a league asking how an age was reached — which is the only thing keeping the originals buys.

14 · Pricing

First verification	\$14.99
Annual renewal	\$9.99
Paid by	Card, USDC, or POL through the studio's checkout; prices are set on-chain in US cents

The renewal is the number that matters, because it is the one a family pays for as long as the athlete competes. What it buys each year is a verifier reading documents again, which is human time that does not scale away. At \$9.99 a year it sits well under a single tournament entry (\$40–\$75 per player) and a season's league registration (\$100–\$300), which is the company the credential actually keeps.

15 · Owner powers

Every contract has an owner key. The useful question is what it can do — so here is the full list, in both directions.

The owner can

- Grant and revoke the registrar and the verifier admin.
- Add and retire rulesets.
- Move the document minimum, never below the fixed floor.
- Set the season lookahead (0–3), the quorum (1–5) and the endorsement window (1 hour–30 days).
- Revoke any attestation, and set the token metadata base URI.

The owner cannot

- Lower the floor below birth certificate plus consent — it is a constant with no setter.

- Mint a SportsPort. Only a verifier's issue mints, and only with a valid attestation.
- Transfer a SportsPort, or make one transferable. There is no path to either.
- Write a date of birth, a name, or a school anywhere on-chain. The storage has no field for them.
- Stamp a league age more than three seasons ahead, whatever the lookahead setting.

16 · Status and what is not done

A whitepaper that lists only what works is a brochure. This is the state of things as of 12 September 2026:

Status	Item
Not deployed	Nothing is on Amoy or Polygon yet. The contracts run on a local network only. Amoy rehearsal is the next step, mainnet after that; section 17 is filled in on that day.
Not audited	No third-party audit has been performed. The test suite is not a substitute for one.
Governance	The owner is a single wallet today, intended to become a multisig. A known admin-can-lock-itself state in the contract header is to be settled before the first public deploy — free today, expensive after.
Verifiers	VTs staff only. The role, the admin role and the quorum exist so leagues and schools can hold it later; none does yet.
Privacy review	The consent form and retention schedule are to be reviewed by someone with youth-privacy experience before the first real family goes through them.
Out of scope for v1	Zero-knowledge proofs of age (the commitment is built for it; the circuit is not). Wallet binding and self-service claims for athletes. Verifier reputation or staking. Cross-league portability agreements — the chain makes the data portable; leagues still have to agree to accept it.

17 · Contracts and verifying it yourself

Three contracts, one Hardhat project, source-verified on Polygonscan at deployment:

Contract	What it is	Address
VTSportsPort	The soulbound credential and its attestations	— pending deployment —
VTSL leagueRegistry	What a partnered league requires at the gate	— pending deployment —
VTSPayoutBatch	One transaction that settles many partner leagues. No roles, no owner, no state	— pending deployment —

Once deployed, nothing in this document needs to be taken on trust. Every claim is a public read on a verified contract, answered by Polygonscan's Read Contract tab without a wallet:

Eligibility	isEligible(athleteId, rulesetId, minAge, maxAge, requiredDocs), isActive(athleteId), expiryFor(timestamp)
Document rules	DOCS_FLOOR, requiredDocs, ALL_DOCS

Seasons	leagueAgeRecord(athleteId, rulesetId), currentCutoffYear(rulesetId), seasonLookahead, MAX_SEASON_LOOKAHEAD
Quorum	quorum, MAX_QUORUM, endorsementWindow, verifierCount, pendingEndorsement(...)
Validity	VALIDITY_YEARS, expiresAt(athleteId)
Soulbound	locked(tokenId) — always true

Where this paper and the chain disagree, the chain is correct and this paper is out of date.

18 · Risks and disclaimers

- **\$VTSP is a credential, not an investment.** It has no price, no market, and no transferability. Nothing here is an offer of a security or financial advice.
- **A credential is only as good as its verifier.** The chain proves what a verifier wrote and when; it cannot prove the verifier read the certificate correctly. Quorum reduces the blast radius of one bad key; it does not remove the human step.
- **Not yet deployed.** Everything in this document describes contracts as written and tested, not as running on Polygon mainnet. Parameters may change before deployment; section 16 lists what is open.
- **Off-chain dependencies.** Document handling, consent, the gate page and the athlete-code lookup are operated by Vivid Tokenz Studios and are points of failure outside the contract's bytecode.
- **League acceptance is not ours to grant.** The credential makes eligibility portable; each league decides whether to accept it.
- **Smart contract risk.** The contracts are tested but have not been through a third-party audit, and no process eliminates the possibility of defects.

This document is provided for information only, describes the contracts as written on 12 September 2026, and does not constitute legal, tax, or investment advice. Vivid Tokenz Studios, LLC.