Soundside Design

Capability Statement

October 2026

Soundside Design builds products from its own applied research in sensing, machine learning and autonomy. WhirledPiece, our released app, already does multi-sensor acoustic detection on the edge and improves from reviewed field data. SylphFlight, in development, carries the same discipline into passive sensor networks and drones that keep working when GPS and radio are jammed.

WhirledPiece

WhirledPiece: released edge sensing that learns from the field

A shot timer and target scorer for iPhone, iPad, Apple Watch and the web, released in September 2026. Behind the consumer product is a complete sensing, review and model-release pipeline.

- **Sample-accurate timing.** An energy detector pins each impulse to a single audio sample (about 23 µs at 44.1 kHz). Later stages can reject a detection but never move its time.
- **On-device classification with honest uncertainty.** A bundled model scores each event; confident detections are shown, borderline ones are shown and flagged for review, and the rest are dropped. Nothing is silently deleted.
- **Several sensors on one clock.** The phone's microphone owns timing, the classifier owns identity, and Apple Watch recoil corroborates which shots are the user's. One shared clock ties phone, Watch, replay and training together.
- **Interference handling.** A rule removes indoor echo tails; on held-out sessions it removed about 200 duplicate calls at the cost of one real shot.
- **Computer vision.** Target photos are corrected for camera angle and measured in physical units; holes are found in about 12 ms and printed rings register to within 0.031 in (median, 43 field targets).
- **Learning from review.** Every detection is correctable: keep, move, add, reject or “not mine.” Reviewed corrections become training and evaluation data after admission checks, split by session, and every candidate model is scored on held-out sessions before release.
- **Measured, with limits stated.** On 48 sessions neither model was trained on, the shipped model found 217 of 219 shots with 13 extra calls (F1 0.967 against 0.942 for its predecessor; better in 10 sessions, worse in none).
- **Shipped and offline-first.** Timing, review and scoring work without a signal and sync when connected; results are available on the web.

SylphFlight

SylphFlight: building on WhirledPiece

A program to build passive sensors on land and at sea, which detect without emitting, and drones that park and recharge themselves, that keep working under jamming and get better with every mission. Each WhirledPiece capability has a direct counterpart:

WhirledPiece today	SylphFlight builds
Sample-accurate onsets on one shared clock	Passive microphone and camera nodes on clocks that hold time without GPS, so several nodes' bearings locate a drone or boat
Classifier that shows, flags or drops	Detection that alerts, asks for review or ignores, tuned to drones and small boats
Watch recoil corroborates the user's own shots	Our drones' flight data explains our own traffic, so only true unknowns raise an alert
Users' review labels each detection	A docked drone's look labels each alert automatically
Held-out test before every model release	The same release test for every model sent to nodes and drones
Offline-first apps that sync later	Nodes and drones that keep working through radio loss and GPS denial
Correctable records with provenance	Every plan, check and decision logged and replayable

New in SylphFlight: plain-English tasking with deterministic safety checks; standing rules that send a docked drone to look, with the operator notified and able to recall it; flight by sight when GPS is denied, with return along the flown route; and docks that recharge between missions. The system looks, watches and reports; people decide what happens next.

Status: in development. The mission language, safety checks and onboard behavior run end to end in autopilot software simulation; sensor nodes and docks are designed; flight trials on our test aircraft are next.

COMPANY DATA

Soundside Design LLC
Connecticut, USA

Registered in SAM.gov. UEI and CAGE available on request.

At a glance

WhirledPiece: released September 2026; iPhone, iPad, Apple Watch and web; on-device detection, computer vision and a held-out release process.

SylphFlight: in development; passive sensors on land and at sea, docked drones, flight without GPS, learning from every mission.

Core competencies

Edge sensing
Learning from the field
Supervised autonomy
Evaluation

What sets us apart

– Products built from our own research
– Measured results with their limits stated
– Deterministic checks around every AI decision
– Learning loops that improve from field use

NAICS

541715 – Physical and engineering R&D
541511 – Custom computer programming
513210 – Software publishing

Working with us

We welcome inquiries from government, research and industry partners.

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