



traces of intelligence

An investigative design research framework

[digital footprints]

[wear patterns]

[found data]

[lived experience]

Abhay Vohra

abhay@embodiedintelligence.in

01 The idea

Traces of Intelligence is an experimental framework, and at its core a meditation on the nature of data — on what counts as data, what can honestly be read from it — and on what it means to be creative in the age of AI.

We ask: can the ephemeral traces of everyday life — gathered carefully and synthesized deliberately — tell us something real about the futures they're pointing toward?

Behind that question sit two others, quieter but doing real work. If pattern-finding across data at massive scale is treated as a form of intelligence, does anything of that capacity survive when the dataset shrinks to the scale of a life — the shortcut worn diagonally across a lawn, the apps rearranged on a home screen, the one drawer in the kitchen where everything ends up, a month of search history? And can traces like these reveal parts of the present that no interview or survey would ever surface, simply because nobody thinks to mention what nobody notices?

Our inspirations

The framework didn't come from nowhere. Paul Dourish gave us the conviction that fieldwork owes design something better than a checklist — that ethnography is an *analytic* practice, not just an empirical one, and that its real gift is an account of forms of life — a changed understanding of how a corner of the world is put together (Dourish, 2006). If that's what observation can produce, then the outputs of this framework should be changed understandings too, not requirements documents.

Nicolas Nova gave that conviction a figure to inhabit: the **investigative designer**, who invents a process for each project rather than applying a method, borrows shamelessly across disciplines, builds their own tools of inquiry, and presents what they find as made things rather than papers (Nova, 2021). The whole spirit of this framework — and of the programme built around it — is Nova’s investigator, pointed at a specific question about traces.

And finally, Matt Artz supplies the final piece: an account of agentic AI as *interlocutor* rather than instrument — a system that makes interpretive moves, talks back, and has to be negotiated with — while the human researcher keeps final authority over what anything means (Artz, 2026). That is the posture our framework takes toward AI throughout.

02 Traces as data

A trace is anything the world writes down about itself: any transient or persistent configuration of matter that presents itself to the senses. People and organisations shed signs as they move through time and space — and ephemeral traces are lost unless someone, or something, is there to record them (Dabbs, 1982, cited in Lee, 2000).

What makes traces special as data is their **indexicality**. A word relates to its object by convention; a picture by resemblance; but a trace has a direct causal connection to whatever made it — the footprint and the foot. Nobody performs a worn stair. This is what the unobtrusive-methods lineage in social research has always prized: traces are non-reactive. Ask people questions and they claim opinions on topics that don’t exist, over-report what sounds good, and shift answers with the order of the questions and the person asking (Lee, 2000). The world’s own residue does none of this.

Traces come in two registers — physical and digital — and we treat them as one continuum, not two disciplines. Here it’s worth naming **digital ethnography** explicitly, since it’s often fenced off as a specialism for people who study the internet (Pink et al., 2016). Catherine Crooke’s argument, which we adopt, is that this fencing is a mistake: attending to the digital dimension of any field site isn’t a niche method — it simply increases the surface area of observable life, because so much of what happens anywhere now happens partly through screens (Crooke, 2026).

Within this continuum, an investigation may draw on:

- **First-person (autoethnographic) lived experience** — noticing and recording your own daily patterns, attending not just to what you do but to how it feels, sounds, and registers in the body, in the spirit of sensory ethnography (Pink, 2015)
- **Digital footprints** — the residue ordinary platform use leaves behind, read with the toolkit of digital ethnography (Pink et al., 2016; Crooke, 2026)
- **Physical traces** — objects, wear, accumulation; the "found data" of erosion and accretion in a space (Lee, 2000)
- **Unobtrusively observed public material** — conversation and activity that's already public, read carefully rather than elicited (Lee, 2000)

Collection is organised by a simple discipline borrowed from Lee: for any setting, ask what can be **found** (traces sitting in place), what must be **captured** (ephemeral traces that vanish unless recorded), and what can be **retrieved** (records that already exist — logs, archives, diaries, media) (Lee, 2000).

Getting from a phenomenon to something analysable is itself a design act. Framing what to look at, constraining what to exclude, deciding how a trace gets registered and encoded — these choices shape everything downstream, and the framework asks that they be made deliberately and written down. That log is the difference between trace research and just noticing things.

One caution, up front rather than in a footnote: traces do not speak for themselves. Their air of hard evidence is earned through careful handling, not guaranteed by the material. Everything in the next section is scaffolding against reading meaning into noise.

03 The framework

Five phases, mirroring the shape of the incubation programme itself. The middle of the cycle — gathering through synthesis — usually runs more than once.

- 1 • **A question for inquiry.** Every investigation starts from a specific line of inquiry, not an open brief. Choosing it means making a familiar setting strange enough to see: slow the observation down or speed it up, attend to what's normally only sensed in passing, or nudge a situation so its hidden structure shows. Output: a question, a trace inventory, and an ethics position.

2 • Grounding. Before fieldwork, everyone gets onto a shared method and vocabulary — what counts as a trace, how provenance is recorded, what the AI will and won't be asked to do. This is where rigour is set up, so it doesn't have to be retrofitted later.

3 • Data gathering. Found, captured, and retrieved collection, using the modes above. Every trace enters the corpus with a **provenance record**: what produced it, what recorded it, what was deliberately left out. The provenance log is the framework's answer to the gap between a dataset and the world it claims to describe.

4 • Synthesis, together. The corpus meets the AI framework — a collaborative step, not an automated one. The machine does the deductive and inductive work: testing the material against frames declared in advance, and surfacing recurrences across more material than anyone could hold in view by hand. We deliberately run competing readings over the same data, because the moments when the machine's account of your own material feels *wrong* are often the moments that clarify what you actually found.

5 • Making and presenting. What synthesis yields is a changed understanding — an account of how something is put together, in the same sense Dourish means when he calls ethnography an analytic rather than an empirical practice. This phase gives that understanding material form: it becomes an artifact, in whatever medium fits the work, and is taken out to meet the public — at festivals, exhibitions, conferences, in formats designed for the piece rather than retrofitted to a venue. The artifact is the argument, not an illustration of one.

What we can and can't claim

Trace work is slow and bounded by the material available; it will never match the scale or speed of computational analysis on big data, and it isn't trying to.

Unobtrusive research on digital material carries real ethical weight, especially around content that is public but was never offered (Lee, 2000). Where a practitioner works with their own traces, reflexivity is a requirement, not a virtue. And the framework's honest default is interpretation — a sharper reading of the present. Whether traces genuinely point *forward* is the hypothesis under test, and reporting where each investigation actually landed is part of the method.

This framework is under active investigation at Embodied Intelligence Labs. If it speaks to your practice, we'd like to hear from you.

Write to us at abhay@embodiedintelligence.in

traces

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