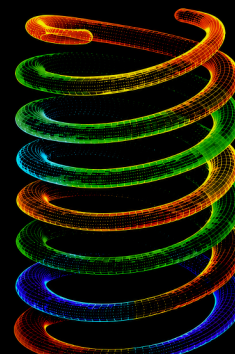


Clinical AI is missing a layer. I built it.

A decision-provenance architecture — a translator between lived human experience and machine-readable clinical data.

Clinical AI learns from outcomes.

ESP360° captures and models the decisions behind them.



MY CLAIM

I've identified and instantiated a missing layer in diabetes data. Here's evidence that it can be represented. Now I need the right people to challenge it, determine the appropriate verification and validation pathway, and help take it further.

IN PLAIN LANGUAGE

Devices record what happened. ESP360° captures the reasoning behind it — what a person knew, observed, weighed and decided — as structured data on the same timescale, then aligns the two streams. It does not score compliance and does not establish causation.

WHO THIS IS FOR

IMMEDIATE · DEVELOPMENT & INTEGRATION

AI, software, medical-device and research organizations able to integrate, test and challenge the architecture.

ULTIMATE · BENEFICIARIES

Patients and clinicians — who gain reviewable decision context, not a compliance score.

N-OF-1 IMPLEMENTATION · 68 CONSECUTIVE DAYS · PROOF OF CONCEPT

536 RECORDS · 340 STRUCTURED VARIABLES

21 HUMAN-STATE ANNOTATION LAYERS · 468 DECISION EVENTS

Of 340 structured variables: 137 captured or partly captured · 200 derived · 3 reserved.

Single subject · one continuous 68-day window · not a multi-patient cohort. Proof of concept, not validation.

STRATEGIC APPLICATIONS

Explainable clinical AI · decision governance and audit · closed-loop safety layers · AI training data with human decision context · therapy personalization · evidence for regulatory decision review.



Mark E. Paull

Independent Researcher · Decision Systems Architect · 60th year with type 1 diabetes

Peer reviewer, Diabetes Care and Clinical Diabetes · Published in Diabetes Care (ADA), Diabetes Technology & Therapeutics and STAT News · Two U.S. provisional patent applications.

markpaull56@gmail.com · +1 438-346-2476 · ORCID 0009-0002-7658-0737 · Montréal, Canada



THE SAME ARGUMENT, TOLD FROM INSIDE

COME ON, MARKY — a memoir

The reasoning layer, kept by hand since 1967. Full manuscript under review.

Photograph: Canadian Diabetes Association Newsletter, Fourth Quarter 1968, Vol. 15 No. 4 — one year after diagnosis.



SWEDISH ROYAL COURT · AUGUST 2026

Suggested contact with Karolinska Institutet (KI)



ROYAL HOUSEHOLD OF SPAIN · AUGUST 2026

Confirmed an ESP360° briefing may be sent
"para su conocimiento" — for its information

SPECIAL THANKS Billy and Terry Goldig · S. Robert Levine, MD

BREAKTHROUGH T1D CRC 2026 · PHILADELPHIA · OCTOBER 9–11, 2026

REVERSE →

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How decisions become computable, classifiable, and governable.

ESP360° captures the decision context surrounding an action — not only its outcome: the state, uncertainty, timing and judgment behind it, recorded so that it is computable and auditable. Where conventional clinical records emphasize the resolved entry, ESP360° also preserves structured pre-resolution context.

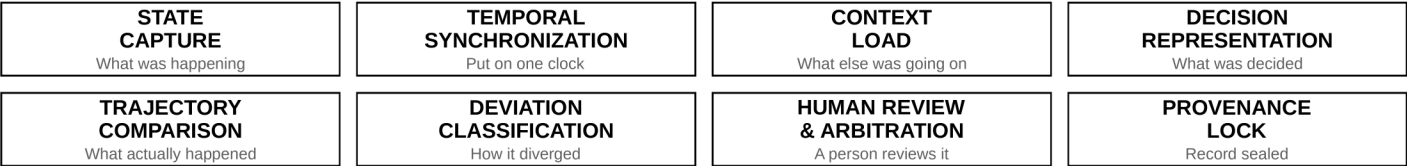
N-OF-1 IMPLEMENTATION · 68 CONSECUTIVE DAYS · PROOF OF CONCEPT

536 RECORDS · 340 STRUCTURED VARIABLES

21 HUMAN-STATE ANNOTATION LAYERS · 468 DECISION EVENTS

536 records = 468 event rows + 68 day-review rows · 340 variables = 137 captured or partly captured · 200 derived · 3 reserved

01 · THE ARCHITECTURAL PIPELINE



02 · DECISION DEVIATION SIGNAL (DDS)

Divergence between expected and observed trajectories is **classified before root-cause attribution**.



CORE FINDING · NEAR-MATCHED ENDPOINTS, DIFFERENT PROVENANCE

Near-matched glucose endpoints, different decision pathways.

Single-subject 68-day N-of-1 window. Matched within 0.3 mmol/L pre-decision; endpoints within 0.2 mmol/L.

RECORD A · DAY 10 · 2025-10-21 17:32

State14.7 mmol/L, drifting

Judgmentrestraint — “sticky drift”

Action2.0 U correction

Endpoint13.9 mmol/L at +93 min

RECORD B · DAY 23 · 2025-11-03 16:25

State14.4 mmol/L, post-meal spike

Judgmentescalation — “knock it down”

Action4.0 U correction

Endpoint13.7 mmol/L at +130 min

Outcome data collapse these into one bucket. ESP360° preserves them as two structured records.

VERIFICATION & VALIDATION ROADMAP

DEMONSTRATED	NOT YET ESTABLISHED	PLANNED NEXT
- N-of-1 implementation - Temporal alignment with device data - Auditable provenance record	- Design verification matrix - Formal risk analysis - Intended-use validation & safety	- Inter-rater reliability study - Cross-user evaluation - Regulatory pathway determination

PRODUCT SCOPE

ESP360° currently comprises the decision-representation and mapping architecture — middleware, an AI-training framework, or licensed integration technology — not a regulated, patient-facing clinical product.

AT CRC 2026 I am seeking expert criticism, the correct verification and validation pathway, and clinical, engineering and industry partners.

COME ON, MARKY

— the years this work came out of. The reasoning layer, kept by hand since 1967.

Full manuscript under review. Ask me about it — markpaull56@gmail.com

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Abstract #47 — oral presentation · Abstracts #33 and #51 — e-posters · markpaull56@gmail.com · +1 438-346-2476

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