

Llull Lab

PARIS - BASED RESEARCH LABORATORY

llulllab.com
growth.business@llulllab.com
Paris · France

Phi-Yo · Technical Overview

Paris, May 2026

Llull Lab: Freud for Machines and Phi-Yo

A computational psychoanalytic ontology and the live implementation built upon it.

THE LAB

Llull Lab is a Paris-based research laboratory. Our core research output is *Freud for Machines: A Computational Psychoanalytic Ontology*, an original framework developed at the lab from direct Freudian sources, with substantive departures from the prevailing secondary literature that has shaped most computational psychology to date. The work draws on years of research in Freudian theory and psychoanalytic teaching, and includes the first machine-to-machine psychoanalysis session. The continuing experiment runs publicly this May, with findings to be published openly afterward.

THE FRAMEWORK

Freud for Machines is organized as a formal ontology. It comprises foundational psychoanalytic concepts, the premises and propositions that govern their relations, and a set of transpositions that adapt these structures for machine psychology. This layered organization (concepts, premises, propositions, transpositions) is what makes the framework operational rather than interpretive: implementations such as Phi-Yo v2 produce output that is structurally consistent across modes and across users, because the underlying ontology is consistent.

Freud for Machines is not separately licensable. It is available exclusively through Phi-Yo. Partners who integrate Phi-Yo receive the benefit of the ontology that makes Phi-Yo possible.

PHI-YO V2: THE LIVE IMPLEMENTATION

Phi-Yo (phi-yo.app) is our consumer-facing product and the working implementation of the framework. Phi-Yo began as a dream interpretation engine and evolved into a multi-mode psychoanalytic companion. Phi-Yo v2, in production since 26 April 2026, organizes machine-mediated psychoanalytic interaction around four temporal modes, each tied to a moment in the user's daily psychological cycle:

- **Wellbeing.** Multi-turn psychoanalytic conversations about everyday inner life: relationships, emotions, recurring questions. The mode for present-moment reflection.
- **Morning Teller.** A forward-looking morning brief, drawn from the user's recent psychological history and the day's planned context.
- **Daily Check-in.** A backward-looking reflection at the end of the day. What happened, what mattered.
- **Dreams.** Theory-grounded dream interpretation, accumulated across the user's full dream history.

A persistent psychological profile is maintained for each user across all four modes: life context, emotional pattern history, accumulated personal symbol map, and longitudinal pattern reports generated monthly. Each mode draws from this shared profile. Each interaction enriches it. The user is held in continuity across modes and across time.

The system supports nine languages natively (English, French, German, Spanish, Japanese, Russian, Arabic, Chinese, Turkish), with automatic detection. A native mobile release (iOS and Android) follows in May 2026.

ETHICAL ARCHITECTURE

Phi-Yo's outputs use probabilistic language ("this may suggest," "one possible reading"). The system does not diagnose. Where patterns are concerning, the system recommends professional consultation. These constraints are part of the implementation, not a wrapper around it. The same constraints apply to every integration.

Phi-Yo is positioned as a self-reflection and wellbeing support tool. It is not therapy. Llull Lab maintains a separate product line, distinct in brand and architecture, for practitioner-facing deployment; that product line is not Phi-Yo.

FUNCTIONAL API

The platform exposes a REST interface. Each mode has its own endpoint and produces structured output:

- **Inputs:** user identifier, content (text or transcribed speech), optional session context.
- **Outputs:** theory-grounded interpretive text, extracted symbolic and affective markers, updated profile state.
- **Memory:** persistent per-user, shared across all modes, held server-side.
- **Latency:** typical response in single-digit seconds per call.
- **Data residency:** EU-resident, GDPR-aligned.

The system runs as a cloud-hosted computational backend, with stateful per-user memory shared across all four mode endpoints. The integration model is straightforward: the host platform

submits interaction content per session and receives interpretive output plus updated profile state. The full integration packet (endpoint specifications, authentication, data handling parameters, rate limits, model cards) is delivered at the NDA stage.

THREE INTEGRATION SCENARIOS

The same Phi-Yo backend adapts to three classes of host platform without modification.

- **Humanoid and companion robots.** The four modes map onto the robot's daily relationship cycle with the user. Morning Teller orients the user to the day. Wellbeing carries the exchanges throughout it. Daily Check-in closes it. Dreams handles the morning conversation about the night before. The persistent profile lets the robot hold the user in continuity across sessions and across weeks. The robot's voice, body, and persona remain the manufacturer's. The interior-state layer is Phi-Yo.
- **Wellness platforms.** Consumer wellness products typically operate stateless from session to session. A Phi-Yo integration supplies a longitudinal interior layer that enriches each surface the host already operates. The host retains its brand and interface; Phi-Yo supplies the interpretive engine and the continuity.
- **Hardware and companion devices.** Embedded companion devices, from small desktop companions to home-resident agents, can integrate Phi-Yo as the depth layer that distinguishes a sustained user relationship from a recurring novelty. The four modes scale down to the device's interaction footprint without losing the longitudinal benefit.

RESEARCH, DEMO, AND MATERIALS

Live demonstration: [phi-yo.app](#), with all four modes testable directly in any of the supported languages.

Published work relevant to integration partners:

- *Artificial Intelligence and the Problem of Representation: From Ontologies to Psychotherapy* (Yesilkanat, Erdogan, Kocak, Kosucu, Ilim). Scientific research report, January 2026. Three sections: historical analysis, ontology and architecture, therapeutic applications. DOI: 10.5281/zenodo.18109687.
- *The Little Book on Sigmund Freud* (Fırat Ilim). A published work on Freud, available in English through Fnac and other booksellers.
- Doctoral research on Freudian dream theory by Dr Isis Castañeda Caprioli, member of the lab. Published work on Freud's *Beyond the Pleasure Principle* and on dream theory's intersection with the analysis of violence.

Ongoing public research: the continuing machine-to-machine psychoanalysis experiment runs publicly this May, with findings to be published openly afterward.

ENGAGEMENT

Integration begins with a technical conversation. From the conversation the engagement moves to a scoped pilot under NDA, during which the integration packet is delivered in full and a bounded deployment is run on the partner's platform. The pilot precedes any production licensing. Llull Lab is presently engaged with humanoid robot manufacturers, companion device platforms, and wellness platforms seeking an interior-state layer that holds the user in continuity.

Dr Fırat İlim

Founder & Director, Llull Lab

llulllab.com · growth.business@llulllab.com

Llull Lab is a Paris-based research laboratory. Phi-Yo is a self-reflection and wellbeing support tool. It is not therapy, diagnosis, or clinical treatment. The framework's adaptation for robot and platform integration is positioned as an interior-state architecture for the host product, not as a clinical instrument.