



INTRODUCTION

PROBLEM SPACE

Current Limitation:

- Predefined human-designed symbols
- Direct mapping: Button → Meaning
- Ethological reduction
- Anthropomorphic enforcement

Gap:

Communication systems start from symbols, not from lived interaction scenarios.

CORE IDEA

Scenario-First Approach

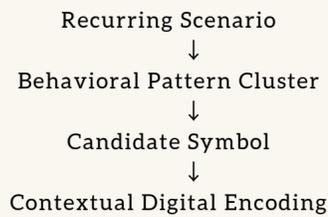
Instead of:

Human Symbol → Animal Learning

We propose:

Scenario → Behavioural Recurrence → Symbol Candidate

Method:



RESEARCH QUESTIONS

1. Which scenarios consistently appear in feline-human interaction?
2. Which behavioural cues may evolve into symbolic units?
3. How can candidate symbols be encoded without collapsing complexity?

EXAMPLE CASE

Scratching Scenario

Instead of:

Scratching = Discomfort

We consider:

Scratching =

Care tension ||
Boundary negotiation ||
Power asymmetry ||
Overstimulation

→ Layered parametric symbol (not binary)

ETHICAL ASPECT

Ethical Rebalancing through Scenario-Based Symbolism

- Reduces unilateral interpretation
- Avoids fixed behavioural abstraction
- Preserves ethological richness
- Softens asymmetry

Symbol emergence grounded in interaction may function as an ethical mediator rather than a behavioural control tool.

FRAMEWORK ARCHITECTURE LAYERS

1. Scenario Identification Layer
2. Behavioural Cluster Layer
3. Emergent Symbol Layer
4. Digital Encoding Layer
5. Ethical Review Layer

Framework Architecture (Conceptual Event-Driven Structure)

The proposed framework may be conceptualized as a layered, event-driven structure in which naturally occurring human-feline interactions are treated as observable events unfolding over time. Rather than predefining symbolic units, the system begins from interaction episodes and progressively abstracts meaning through contextual processing.

Scenario Identification Layer:

Interaction events (e.g., feeding, caregiving, play, boundary moments) are observed and grouped into recurring scenarios. Each scenario represents a context in which communication may potentially emerge.

Behavioral Clustering Layer:

Within each scenario, recurring behavioural cues—such as scratching, gaze shifts, physical contact, or withdrawal—are identified as event patterns. These behaviours are not immediately assigned meaning but examined for repetition and contextual consistency.

Emergent Symbol Layer:

When certain behavioural patterns repeatedly appear within similar scenarios, they may be considered candidate symbolic representations. Symbol emergence is therefore grounded in context and recurrence rather than imposed interpretation.

Digital Encoding Layer:

Candidate symbols may then be translated into flexible digital representations, such as adaptive interface elements or multimedia signals. Encoding remains context-sensitive, allowing symbols to retain layered or graded meaning.

Ethical Review Layer:

Finally, the framework includes a reflective layer ensuring that symbolic abstraction does not oversimplify complex ethological behaviour. This layer emphasizes ethical alignment and aims to minimize unilateral human interpretation.