

Ninaivalaigal Ecosystem — Overall Documentation

Layman Overview

The ecosystem is like a **company of AI assistants** where each module plays a role:

- **Ninaivalaigal + eM:** The memory vault and its right-hand assistant. Keeps everything recorded, organized, and aligned so AI stays on track.
 - **SmritiOS:** The office manager. Orchestrates all modules, decides who should do what, and enforces rules.
 - **TarangAI:** The phone system. Invisible pipes that deliver messages and memories between tools and agents.
 - **Pragna:** The strategist. Looks across memories to find insights and trends, suggests next steps.
 - **FluxMind:** The control room. Dashboards and logs that show what's happening, why, and allow debugging and governance.
- Together, they form an **AI nervous system** — memory, alignment, orchestration, transport, reasoning, and control.

Technical Overview

Ecosystem Design Goals:

- Persistent memory for multi-user, multi-team environments.
- Alignment agent (eM) to enforce guardrails and inject correct context.
- Orchestration (SmritiOS) to coordinate agents and modules.
- Transport (TarangAI) for reliable delivery of context and events.
- Reasoning (Pragna) to generate insights from history.
- Control plane (FluxMind) for transparency, audit, and governance.

Core Components Already in Repo:

- Ninaivalaigal server (FastAPI + Postgres).
- eM commands (record, recall, forget).
- CLI (mem0), VS Code extension, shell integration.
- Basic orgs/teams/roles, JWT auth.

Planned / Conceptual:

- SmritiOS orchestration logic.
- TarangAI transport and stream router.
- Pragna reasoning module.
- FluxMind UI/dashboard.

Architecture Diagram

flowchart LR

User --> TA[TarangAI]

TA --> SM[SmritiOS]

SM --> NV[Ninaivalaigal+eM]

SM --> PR[Pragna]

SM --> FM[FluxMind]

NV --> PR

NV --> FM

PR --> FM

TA --> FM

Sequence Flow (End-to-End Task)

sequenceDiagram
participant User
participant Tool as Tool/IDE/CLI
participant TA as TarangAI
participant SM as SmritiOS
participant NV as Ninaivalaigal+eM
participant PR as Pragna
participant FM as FluxMind
User->>Tool: Perform action / Ask AI
Tool->>TA: Emit request
TA->>SM: Forward request
SM->>NV: Request aligned memory bundle
NV-->>SM: Provide memory+alignment
SM->>PR: Ask for reasoning/insights
PR-->>SM: Return analysis & recommendations
SM->>TA: Send coordinated output
TA-->>Tool: Deliver aligned response
NV->>FM: Log memory usage
PR->>FM: Log insights
SM->>FM: Log orchestration plan

Slide-style Summary (Layman)

- Ninaivalaigal+eM = Memory + Right hand
- SmritiOS = Orchestrator
- TarangAI = Invisible pipes
- Pragna = Strategist
- FluxMind = Control room
- Together: AI nervous system

Slide-style Summary (Technical)

- Core: FastAPI server, Postgres, JWT auth, CLI, IDE extensions
- eM: context injector & guardrails
- SmritiOS: orchestration & policy engine
- TarangAI: event/stream router
- Pragna: reasoning engine
- FluxMind: control plane UI