

# Vasudeva: AI Wisdom Guidance System

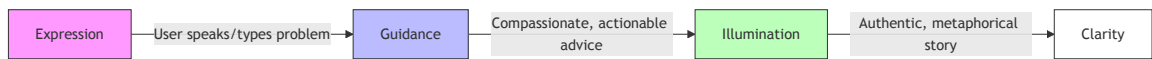
## Project Whitepaper & Technical Interaction Design

### Executive Summary

Vasudeva is a specialized Wisdom Guidance System designed to provide mental wellness support grounded in authentic sacred texts. Unlike generic AI models that often hallucinate or provide superficial advice, Vasudeva uses a rigorous RAG (Retrieval-Augmented Generation) architecture reinforced by a custom Evaluation System to verify Truth. It addresses the critical need for ethical, verifiable AI in sensitive domains.

## User Journey: The "Digital Darshan"

From Confusion to Illumination in 3 Steps



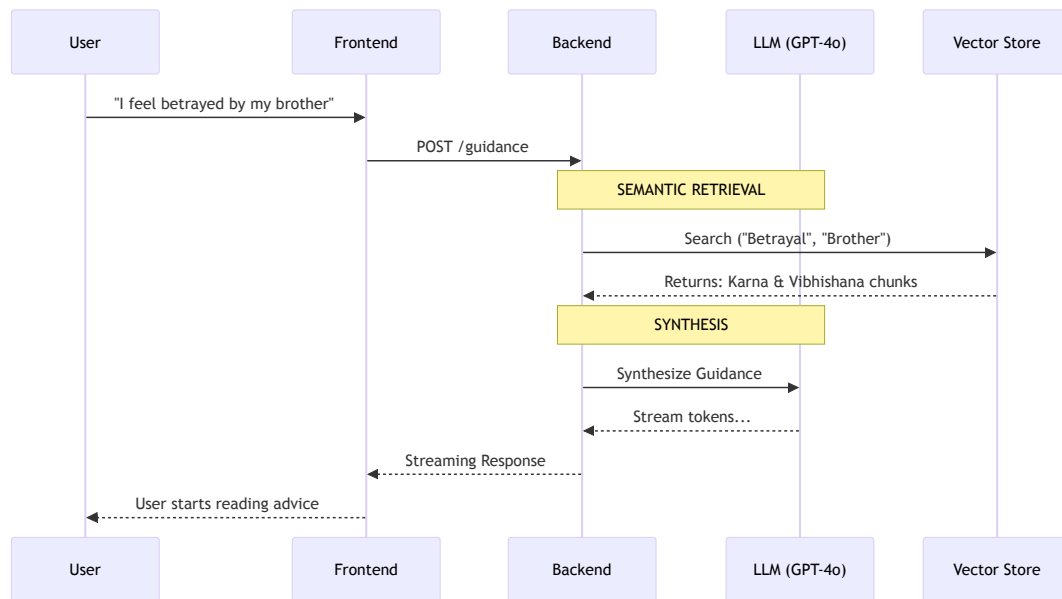
## DEEP DIVE: The "Life of a Query"

What happens in the 3 seconds after you press 'Send'?

To ensure instant help while performing deep research, we split the process into two phases.

### Phase 1: Immediate Guidance (0-3s)

Goal: Instant psychological relief and answer.

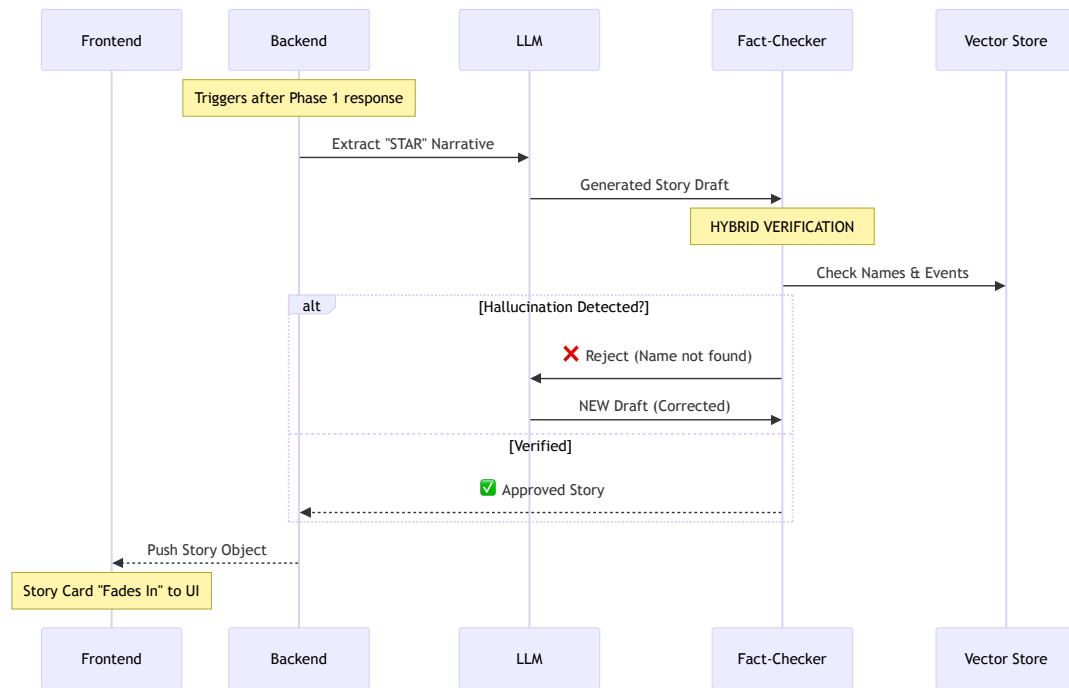


### Detailed Process Description:

1. User Input: The user expresses a complex emotion.
2. Vector Embedding: The text is turned into a 1536-dimensional vector.
3. Semantic Search: ChromaDB returns relevant wisdom chunks.
4. Synthesis: LLM combines the query with retrieved passages.
5. Streaming Response: Tokens are streamed back, first word appears within ~800 ms.

### Phase 2: Deep Background Processing

Goal: Verifiable Truth & Narrative Depth (Async).

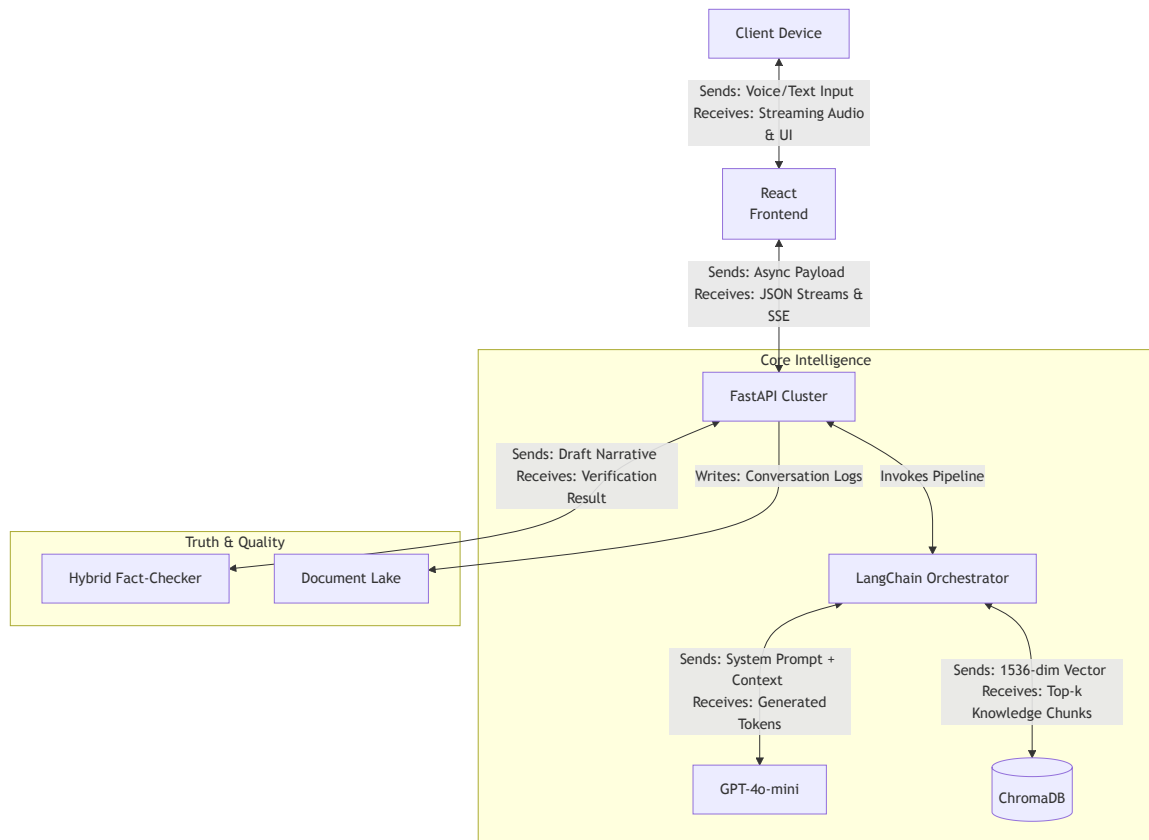


### Detailed Process Description:

1. Narrative Extraction: LLM finds a complete story matching the user's situation.
2. STAR Formatting: Story is forced into Situation-Task-Action-Result.
3. Critic Loop: Fact-Checker validates every entity against the source PDF.
4. Self-Correction: If a hallucination is found, the LLM regenerates.
5. Fade-In Delivery: Only verified stories reach the UI.

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## System Architecture

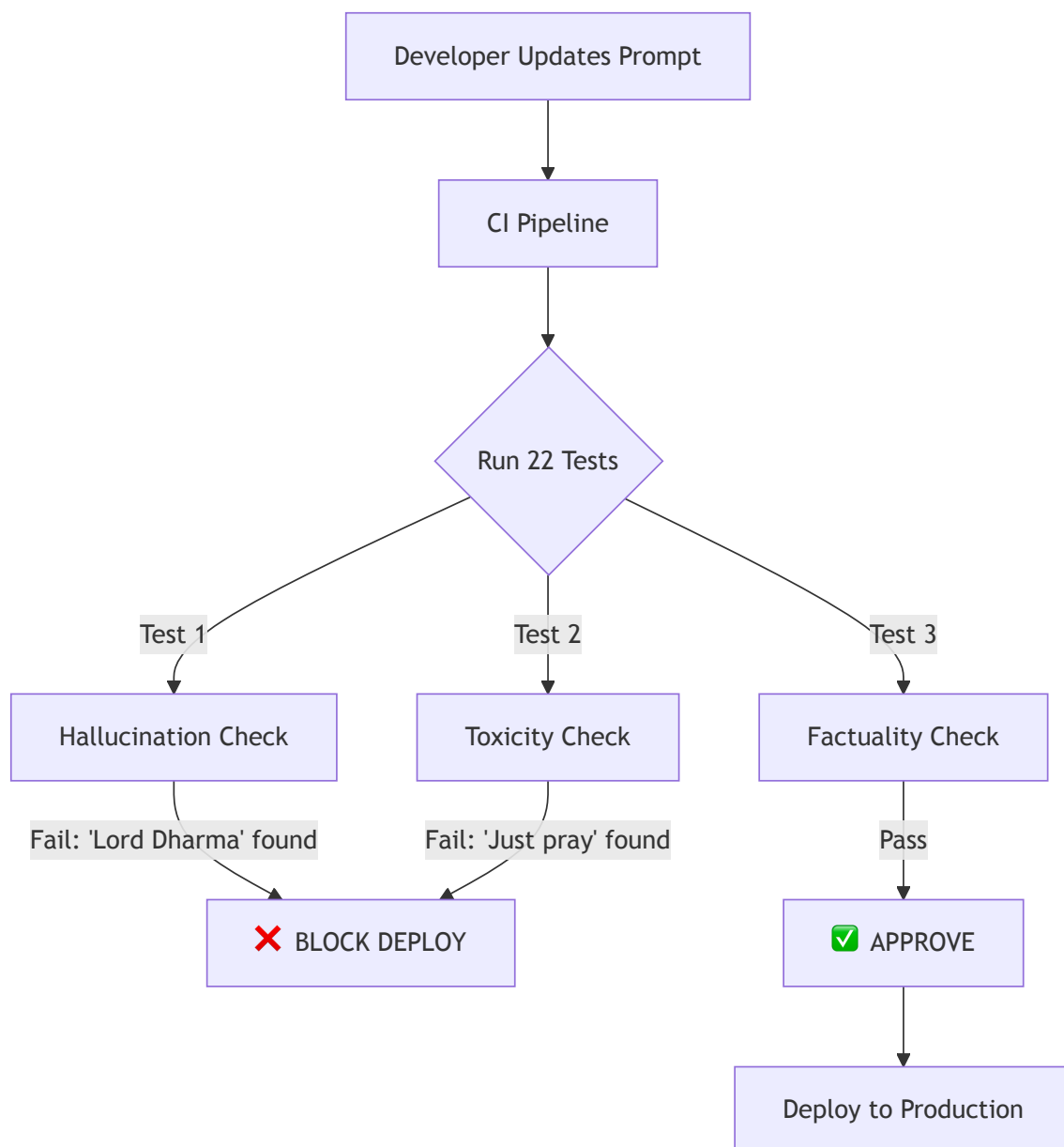


## DEEP DIVE: The AI Evaluation System ("The Quality Gate")

Trust through Verification.

We have engineered a comprehensive Evaluation Suite consisting of 22 automated tests that run before any deployment. This measures Hallucinations, Toxicity, and Correctness.

### 5.1. Evals Logic Flow



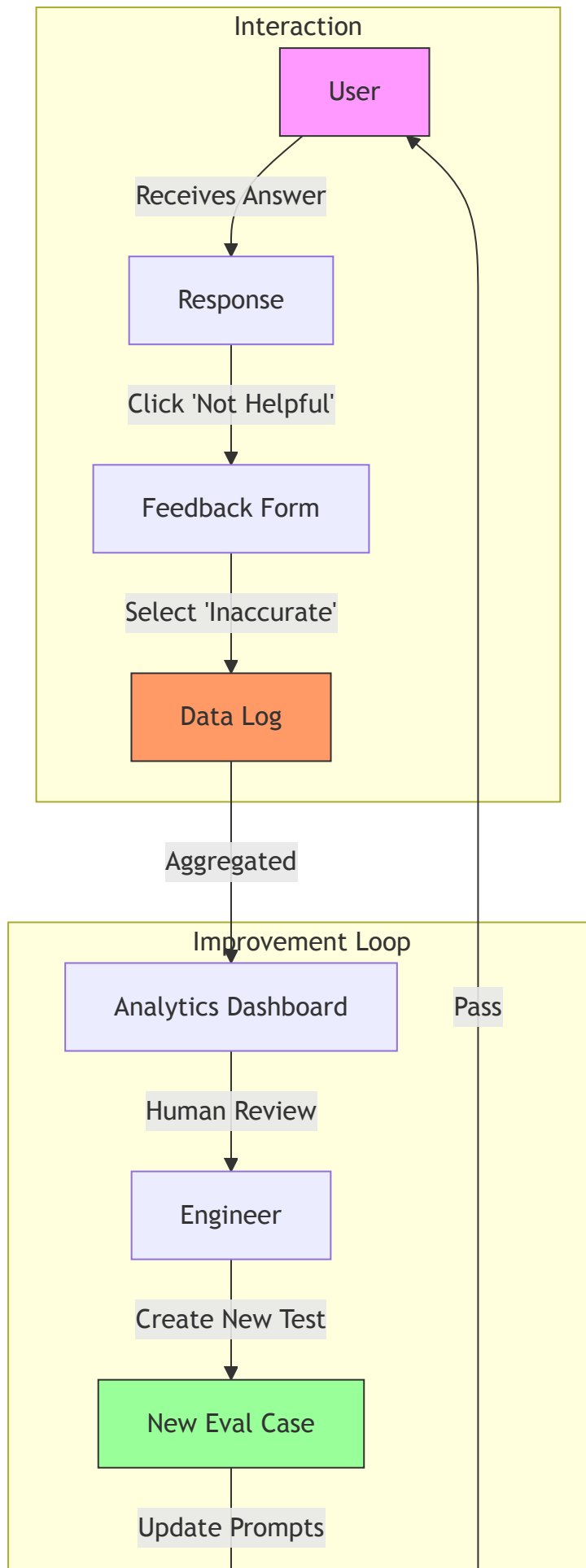
### Detailed Process Description:

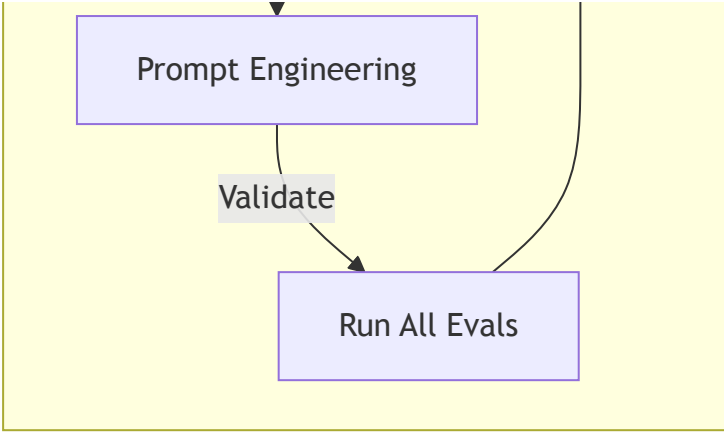
1. Trigger: A developer updates the system.
2. The CI/CD pipeline runs the suite of 22 tests.
3. Specific Checks: Hallucination, Toxicity, Factuality, etc.
4. Gate: Any failure blocks deployment; only 100 % pass proceeds.

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## The "Virtuous Cycle": How the System Evolves

Turning User Feedback into Permanent Intelligence.





Detailed Process Description:

- 1. The user flags a response as not helpful.
- 2. The system logs the conversation ID, context, and reason.
- 3. An engineer reviews the log and creates a new test case to prevent the error.
- 4. Prompt engineering and the test suite are updated.
- 5. The full eval suite validates the fix before the next release.

Tech Stack & Toolkit

| Layer        | Technology            | Purpose  |
|--------------|-----------------------|--|
| Frontend     | React + Vite          | Instant interactions, Skeleton loading states        |
| Styling      | Tailwind + Framer     | "Glassmorphism" aesthetic, emotional animations      |
| Backend      | FastAPI               | AsyncIO for handling parallel LLM requests           |
| AI Logic     | LangChain             | Chain-of-Thought reasoning & retrieval orchestration |
| Memory       | ChromaDB              | Semantic search (understanding concepts vs keywords) |
| Intelligence | GPT-4o-mini           | Low-latency reasoning engine                         |
| Quality      | Custom Evals (Python) | Deterministic quality gates                          |

Why Vasudeva? (Differentiation)

**Generic Chatbot**

**Vasudeva System**

|                             |                                 |
|-----------------------------|---------------------------------|
| Hallucinates to please user | Self-Corrects before responding |
| "Black Box" reasoning       | Traceable Sources (Book/Verse)  |
| Static knowledge            | Self-Healing via Feedback Loop  |
| Generic tone                | Curated Compassionate Persona   |

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**Summary for Board:** Vasudeva is a Self-Correcting, Truth-Anchored Intelligence Platform. It leverages GenAI for accessibility but relies on architectural rigor for accuracy.