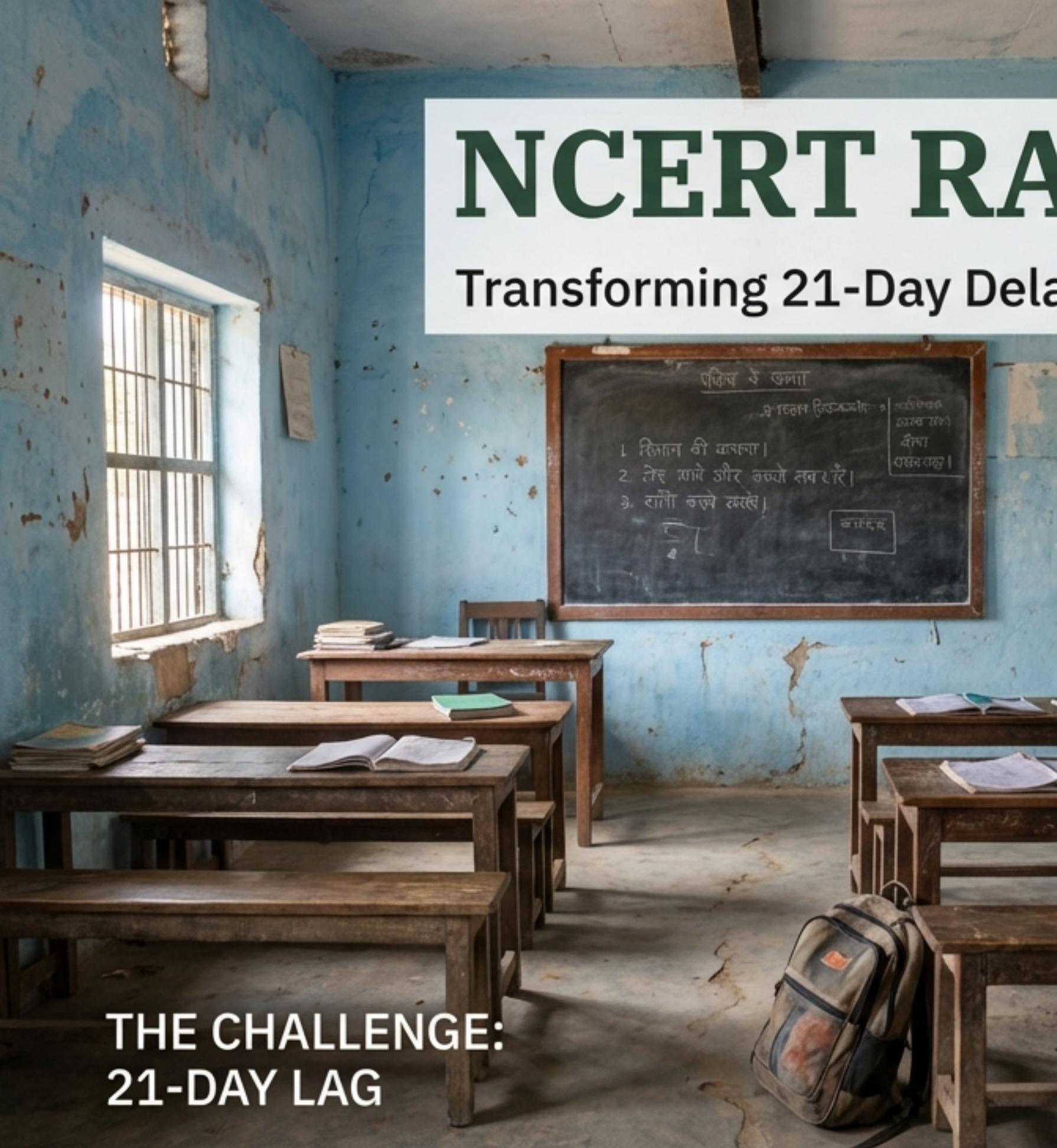
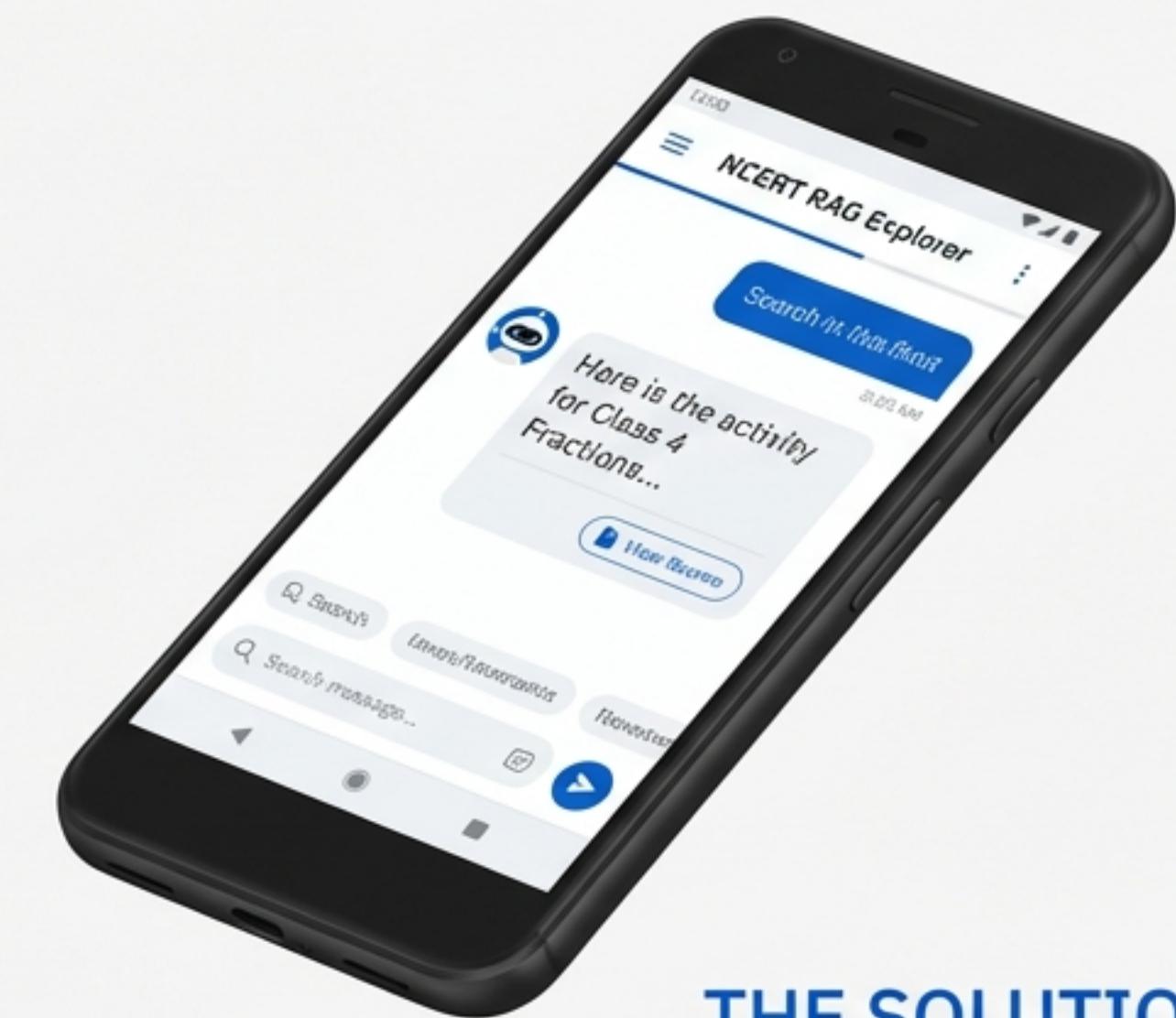


NCERT RAG Explorer

Transforming 21-Day Delays into 5-Second Solutions.



THE CHALLENGE:
21-DAY LAG



THE SOLUTION:
5 SECONDS



NAME: Sunita
ROLE: Primary Teacher
LOCATION: Rural Jharkhand
STATUS: Alone in the classroom

The Reality: Innovation Dies in Isolation

THE INCIDENT

Sunita attempts a new group subtraction activity. The class erupts into chaos. Struggling students get stuck on 'subtraction with zero'.



THE CONFLICT

She needs immediate guidance. But she is the only adult in the room.



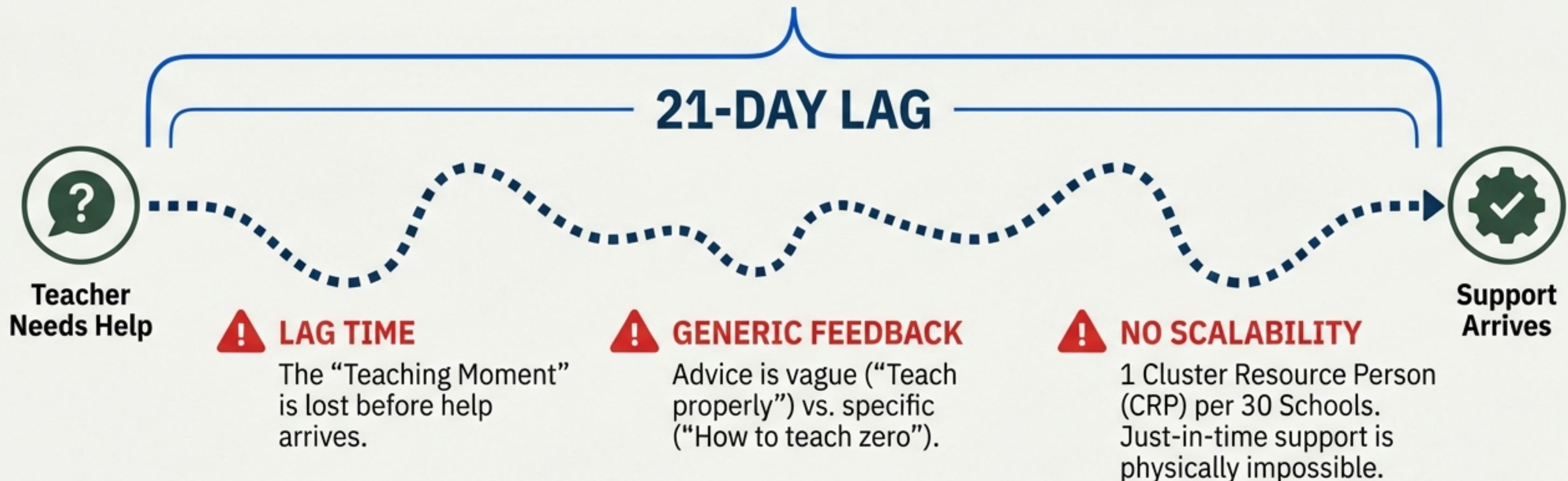
THE OUTCOME

She abandons the activity and returns to rote memorization.

LAST FEEDBACK:
"Ensure engagement"
(Generic)

NEXT SUPPORT VISIT:
3 Weeks Away

The Structural Gap: Why Physical Support Cannot Scale



Result: Teachers revert to methods they are comfortable with, not methods that work.

Meet Your 24/7 AI Teaching Assistant



NATURAL INPUT

Voice or Text questions in natural language.



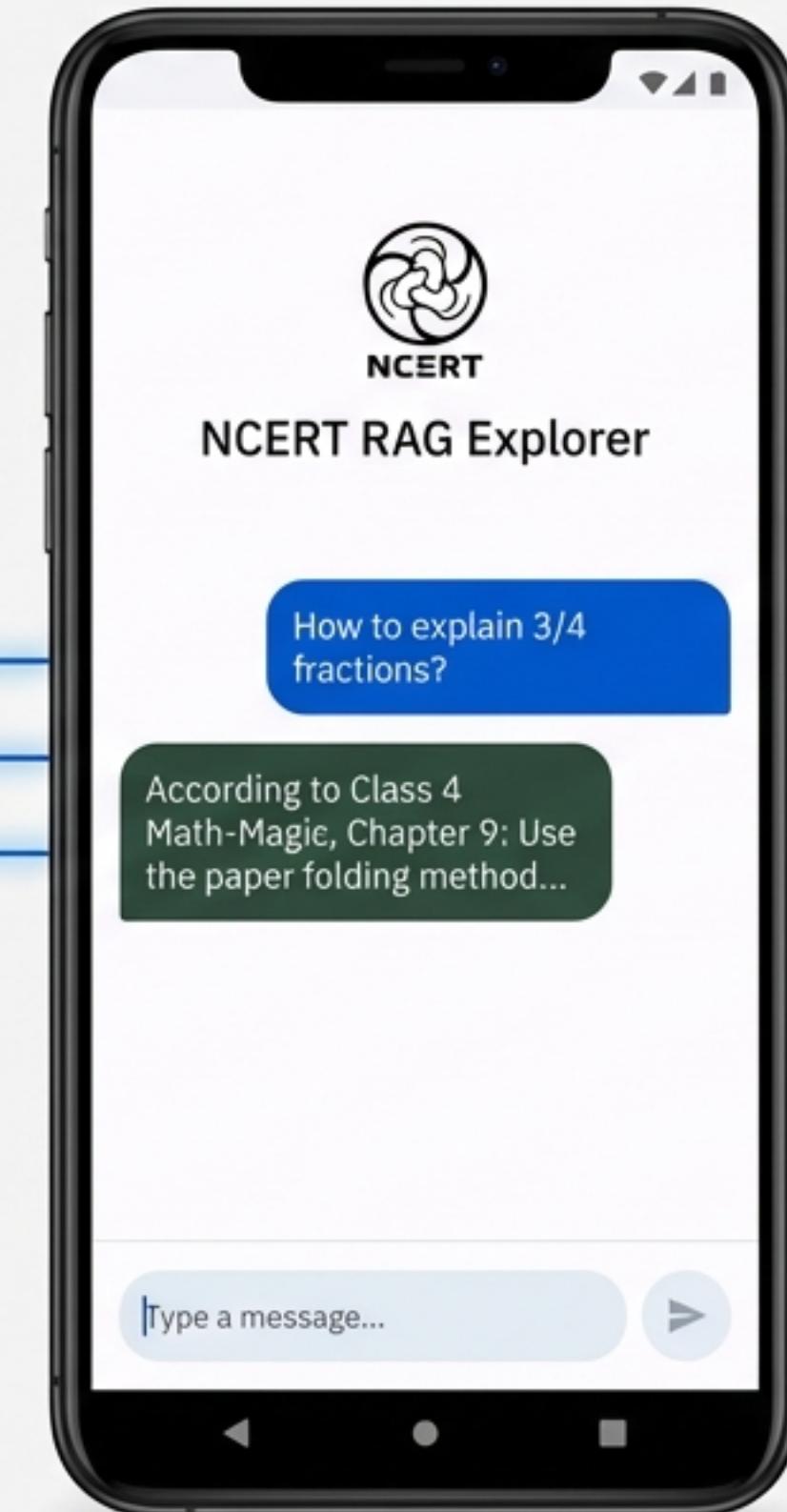
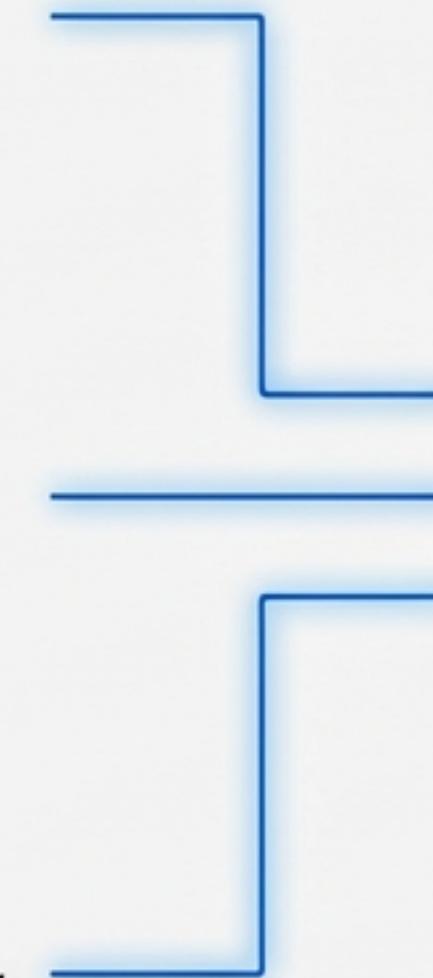
SEMANTIC SEARCH

Scans entire uploaded NCERT curriculum instantly.



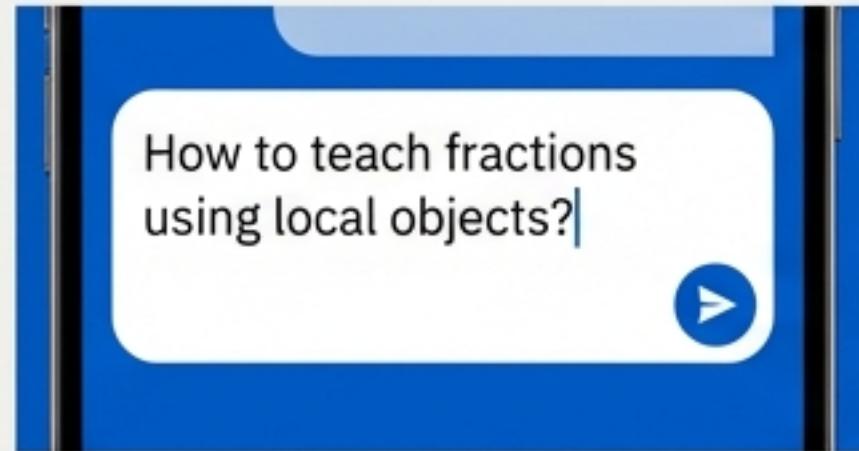
INSTANT ANSWER

Curriculum-aligned pedagogy in < 5 seconds.



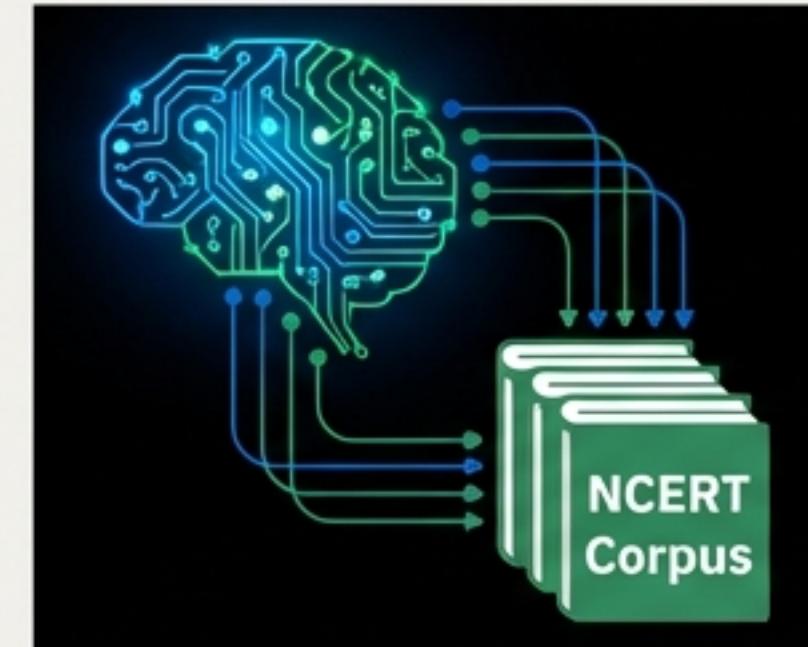
From Confusion to Cited Answer in Under 5 Seconds

1. ASK



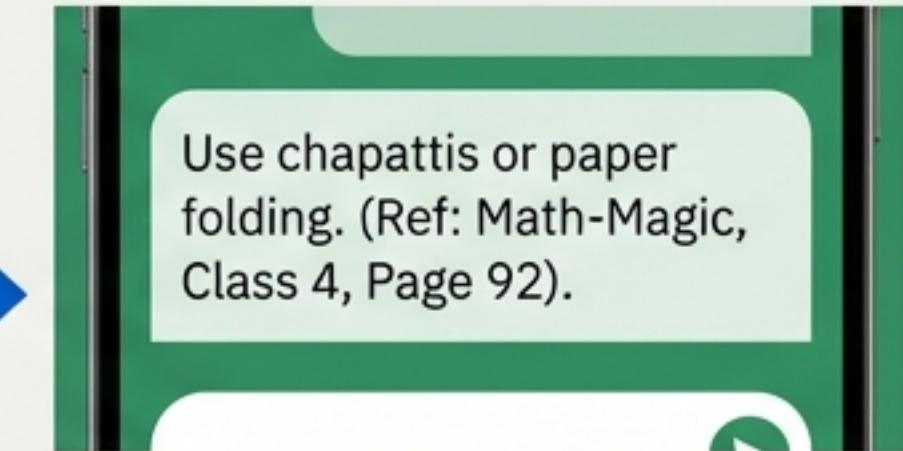
Teacher asks a pedagogical question.

2. SEARCH



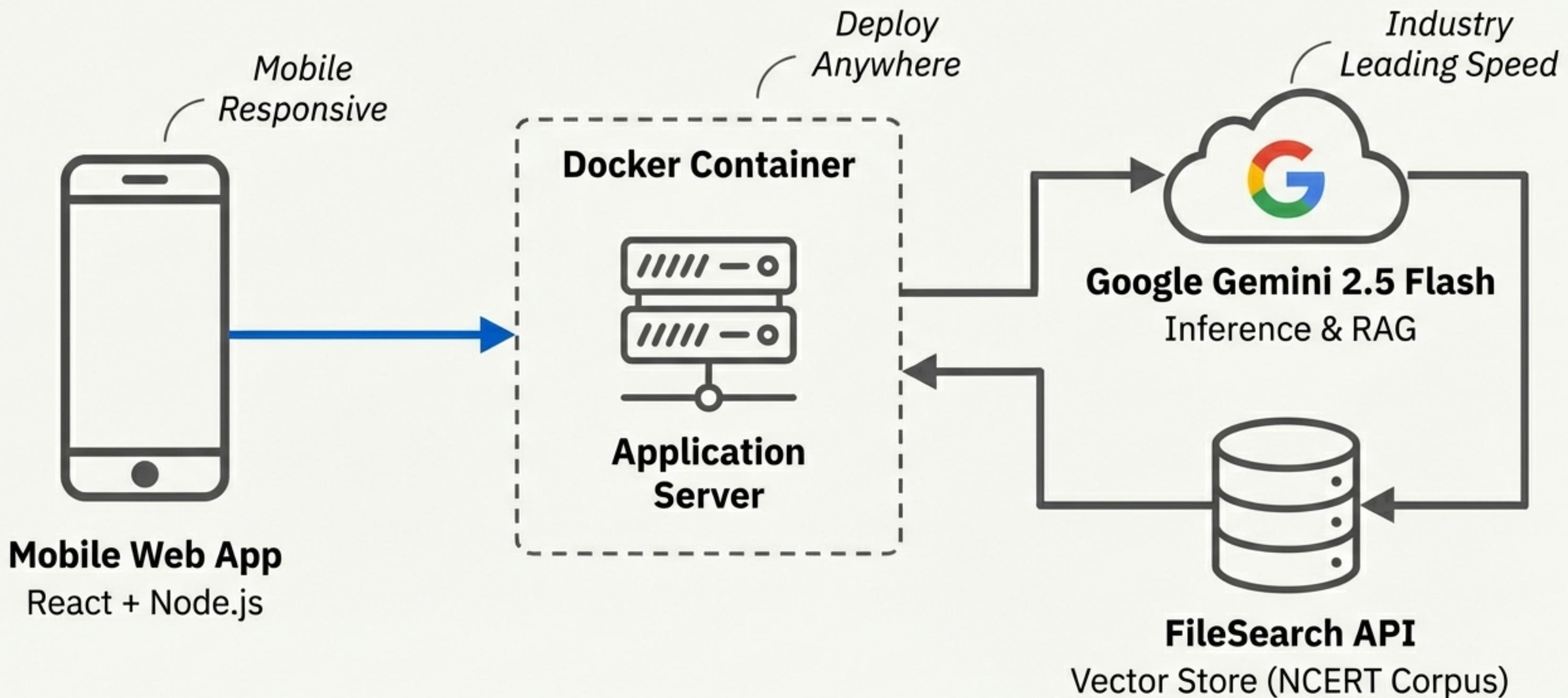
Gemini performs semantic search across Grade 1-12 textbooks.

3. ANSWER



Structured response with specific activities and citations.

Built on Production-Grade Google Infrastructure



Engineering Decisions: Why This Stack?



Why Gemini 2.5 Flash?

Performance & Cost. Free tier supports 10M tokens/day, covering the entire NCERT corpus with zero operational cost for the pilot.



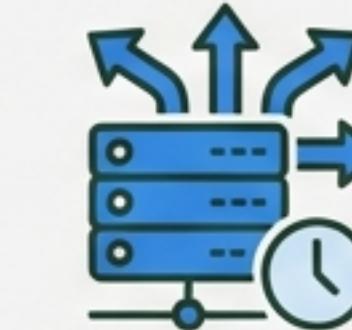
Why FileSearch API?

Managed Infrastructure. Zero overhead for vector database management. Automatic indexing of PDF content.



Why Docker?

Portability. "Deploy anywhere in 5 minutes." Ensures reproducibility across different state data centers or cloud providers.



Why Node.js?

Concurrency. Fast asynchronous I/O to handle thousands of concurrent teacher queries without blocking.

Key Metric: 99.9% Uptime reliability via Google's production infrastructure.

Validated Use Cases: Real Questions, Real Answers

 **Science** ...

 How do I teach photosynthesis to Class 6 students with limited lab equipment?

 You can use the 'Leaf in a Bag' experiment to show transpiration. Refer to Science, Class 6, Chapter 7: Getting to Know Plants.

Type your message... 

CITATION ACCURACY

 **Math** ...

 Class 4 students struggle with fractions—what does NCERT recommend?

 Start with 'Half and Quarter' concepts using paper folding. Avoid abstract numbers initially. See Math-Magic, Class 4, Chapter 9.

Type your message... 

PEDAGOGICAL ALIGNMENT

Live Prototype Available: <https://ncert.aidhunik.com/>

Shifting the Paradigm: 700x Access Improvement

METRIC	CURRENT SYSTEM	WITH NCERT RAG
Support Access	1x / Month (CRP Visit)	24/7 Unlimited
Response Time	21 Days (Average)	5 Seconds 99.9% Faster
Cost per Teacher	₹5,000 / Workshop	₹3 / Month 99.9% Cheaper
Reach	20-30 per CRP	Unlimited / Infinite

Why General Purpose AI Isn't Enough

	Physical CRP	Generic AI (ChatGPT)	DIKSHA Portal	NCERT RAG (Us)
NCERT Grounding		(Hallucinations)		
Speed	(Slow)			
Cost	(High)			
Interactive Q&A			(Static)	

NCERT RAG Explorer is the only solution combining Speed, Low Cost, and 100% Curriculum Alignment.

Built for 1.5 Million Teachers

1.5 MILLION

Teachers with immediate access.

₹3 / MONTH

Sustainable running cost per teacher.

3G READY

Works on ₹5k smartphones in low-bandwidth zones.



Why We Win: Delivering on the Hackathon Mandate

-  **Theme 1 Solved** Directly addresses on-the-go, need-based support.
-  **Working Prototype** Live now, not just slideware.
-  **Proven Tech** Google Gemini 2.5 (Production Grade), not experimental.
-  **Immediate Deployment** Dockerized setup takes < 1 hour to deploy.
-  **NEP 2020 Aligned** Promotes competency-based pedagogy.
-  **Open Source** Ready for Digital Public Goods integration.

Roadmap: From Assistant to Pocket Mentor



Text-based
NCERT Assistant.
Instant answers
with citations.

Voice + Vernacular.
Support for Hindi,
Tamil, Telugu.
Offline PWA.

Systemic Analytics.
Data-driven training
based on teacher
query patterns.



Technology in the Hands of Empowered Teachers.

“Technology alone cannot transform education—but technology in the hands of empowered teachers can transform generations.”

<https://ncert.aidhunik.com/>
GitHub Repo: [/ncert-rag-explorer](https://github.com/ncert-rag-explorer)



SCAN TO TRY
LIVE DEMO