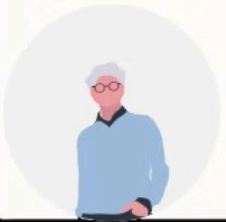


Projectile motion

$$x = ut + (1/2)at^2$$



Parental control

Multi-Galaxy-Note

Theme - Multimodal AI

Beyond Notes. Dynamic Understanding.

For a Student: Multi-Galaxy-Note is a smart study partner that works with you on a digital whiteboard. It listens to your explanations as you solve problems, giving you instant feedback to help you get unstuck and truly understand any topic.

For a Parent: Multi-Galaxy-Note is a personal AI tutor that ensures your child is actively learning, not just passively watching videos. It analyzes their work and verbal explanations together to provide real-time help and allows you to track their genuine progress.

Team MultiGalaxy

Made with GAMMA

Multi-Galaxy-Note Features

Multi-Galaxy-Note redefines **digital education**, transforming passive consumption into an engaging, **interactive journey**. It provides dynamic, real-time support for students and offers invaluable, actionable insights for parents, ensuring a holistic and effective learning environment.



Interactive Whiteboard

Solve complex problems, illustrate intricate concepts, and brainstorm ideas on a dynamic digital canvas. This intuitive whiteboard transforms abstract thoughts into concrete visual explanations, making the learning process active, engaging, and highly visual. Students can draw, write, and manipulate elements just like they would on a physical board, fostering deeper engagement.



AI-Powered Instant Feedback

Receive immediate, intelligent feedback as you work and articulate your thoughts. Our advanced AI analyzes your written solutions and spoken explanations simultaneously, pinpointing areas where you might be struggling or misunderstanding. This real-time guidance helps students overcome challenges efficiently, fostering a resilient and independent learning mindset without the frustration of getting stuck.



Deep Multimodal Understanding

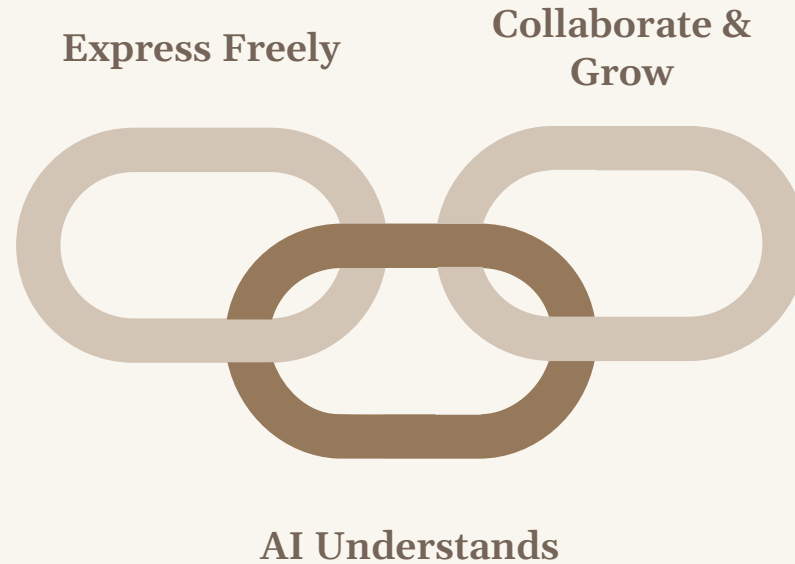
Multi-Galaxy-Note's AI goes beyond simple answer checking. It processes and understands both your written solutions (equations, diagrams, text, documents) and your spoken reasoning, allowing for a truly comprehensive grasp of your learning process. This unique multimodal analysis ensures that feedback is not just corrective, but deeply personalized and contextually relevant, addressing the 'why' behind errors and reinforcing true understanding.



Personalized Progress Tracking

For students, track your genuine understanding and skill development through detailed, easy-to-understand analytics. For parents, gain valuable insights into your child's learning journey, identifying strengths and areas needing improvement. This data-driven approach fosters continuous growth, enables targeted support, and provides a transparent view of academic progression, moving beyond mere grades to assess true mastery.

The Experience

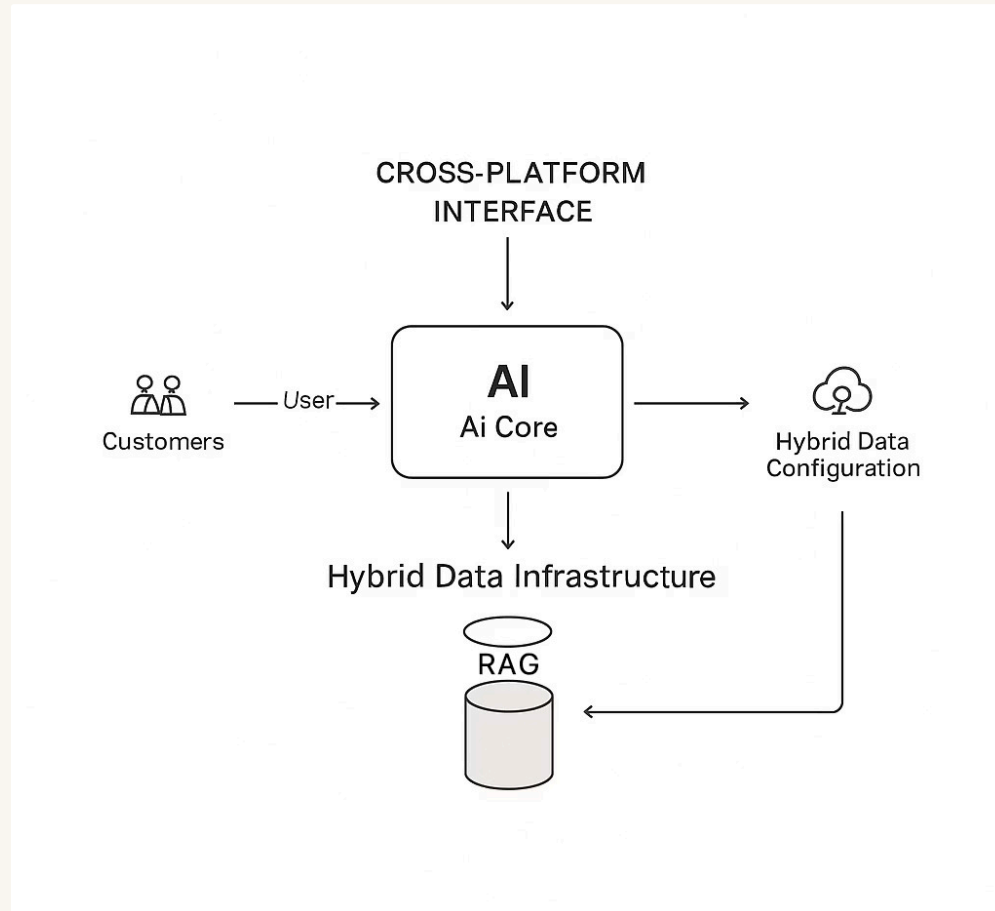


Express Freely: A student draws a diagram on the whiteboard while simultaneously explaining their thought process out loud. Our platform is built to handle such sophisticated multimodal inputs seamlessly.

AI Understands Context: Our proprietary engine achieves true multimodal synergy. It doesn't just process text and images separately; it demonstrates robust reasoning by analyzing the relationship between them to understand the student's true intent.

Collaborate & Grow: The platform responds instantly with targeted, contextual guidance, creating an intelligent dialogue that feels like working with a real-life expert partner.

Platform Architecture & Technology



Frontend: Flutter / React Native for maximum cross-platform compatibility.

Backend: Python with FastAPI for high-performance AI integration.

AI/ML: This is the core intelligence of the application. We don't use a single, monolithic AI; instead, we use a combination of specialized models that work in synergy.

- **Approach:** The "divide and conquer" strategy.
 - **Speech:** A model like OpenAI's Whisper transcribes the user's spoken words into text in real-time.
 - **Vision:** Convolutional Neural Networks (CNNs) analyze the user's drawings on the whiteboard. They can recognize shapes, letters, numbers, and even the structure of complex diagrams.
 - **Language Understanding (LLMs):** A Large Language Model (like Llama or Gemini) acts as the central "brain." It takes the text from the speech model and the analysis from the vision model to gain a complete, contextual understanding of what the user is doing and saying. This allows it to generate insightful, relevant feedback.
 - RAG approach allows Multi-Galaxy-Note to be a highly effective tutor for any subject, as it can be instantly specialized with any set of documents, preventing the AI from hallucinating or giving generic answers.

Infrastructure:

- **On-Device Solutions:** For privacy-sensitive data and to ensure the app is super responsive, some processing can happen directly on the user's device. This on-device employment is a key feature that enhances privacy and speed.
- **Cloud Databases:** For tasks that require immense computational power (like running the large language model) and for scalability, we use cloud infrastructure. This ensures the app can handle many users without slowing down.

The Innovation

Identifying the Learning Gap

Traditional online learning often lacks the dynamic, interactive feedback found in one-on-one tutoring. We saw a critical need for a solution that truly understood the complex, **multimodal** ways students express their thinking.

1

Seamless Human-AI Collaboration

We engineered a platform where students engage in **natural dialogue** with the AI, receiving instant, context-aware guidance. This feels like a true **collaborative partner**, fostering deeper understanding and problem-solving skills.

3

Integrated Parental Oversight

Beyond student-centric innovation, we empower parents with intuitive tools to monitor progress, **set learning goals**, and understand their child's educational journey, creating a holistic and supportive learning **ecosystem**.

5

2

Multimodal AI Breakthrough

Our core innovation lies in an AI engine capable of simultaneously interpreting spoken explanations and **visual inputs (drawings, equations)**. This breakthrough mimics a human tutor's comprehensive understanding of a student's thought process.

4

Reshaping Personalized Education

This innovation transforms education by offering dynamic, **adaptive learning paths** and novel problem generation. Multi-Galaxy-Note stands as an ever-evolving platform, setting a new standard for personalized, intelligent learning.