The Socratic Tutor

Angel Feliciano 5856826

Federico Peon

The goal of our project was to provide a worldwide humanitarian solution that teachers across the globe could implement in their classrooms. Thanks to tools like Google AI and the Cloud Suite, creating autonomous sentry agents empowers teachers to focus on delivering knowledge to their students while ensuring that the technical side of content delivery remains seamless.

The Socratic Tutor allows educators to upload educational materials that students can later query. The key innovation is that the system answers questions exclusively using the uploaded, unstructured texts. Unlike the average Gemini wrapper, which relies heavily on a large language model fallback, this approach confines responses to the educator-provided content. This prevents prompt injection, reduces the risk of students brute forcing answers, and encourages critical thinking by requiring learners to engage with the material itself rather than relying on generic model outputs.

What makes this approach especially promising is its scalability. Built on the Google Cloud Suite and AI Studio, the integration of A2A and ADK enables us to create agents at the root level and scale them as broadly as Google’s infrastructure allows. This positions the system not just as a classroom tool but as a global educational platform. Beyond traditional schooling, the same framework could support humanitarian aid training, workforce upskilling in developing regions, medical education in remote areas, and even disaster relief coordination where domain-specific knowledge needs to be rapidly disseminated in a controlled, reliable manner.

A natural next step is the incorporation of parallel agents. Instead of relying on a single agent to manage both ingestion and question answering, a distributed team of agents could specialize: one dedicated to material ingestion and structuring, another to validating student queries for relevance, and another to generating Socratic-style responses. Parallelism would not only reduce latency at scale but would also allow dynamic role assignment—for example, adding a translation agent to break down language barriers or a moderation agent to flag inappropriate queries. By layering and coordinating these agents, the system could evolve into a truly global, adaptive tutor capable of meeting the diverse needs of students and educators worldwide.

Having progressed from little familiarity with Google’s ADK to successfully creating our own functioning AI agent, we now see that this is only the beginning. The potential for extending this framework through parallelism and cross-domain applications opens a wide range of future possibilities that go far beyond the classroom.