

Google Cloud

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Agentic AI Day

Build the next generation of intelligent agents

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HACK2SKILL

Team Details

- a. **Team name: FAIR Labs**
- b. **Team leader name: Sandhiya Giri**
- c. **Problem statement: AI Teaching Assistant - Sahayak**

Brief about the idea - An Ironman suit for Teachers

Imagine a teacher in an under-resourced area equipped with a powerful tool like Iron Man's suit, designed to amplify their abilities.

This AI-powered companion helps them:

- Create hyper-localized lesson plans, worksheets, quizzes, and visual aids.
- Instantly differentiate materials for multiple grade levels in one classroom.
- Generate engaging video content for teaching.
- Evaluate student responses and provide actionable insights.
- Organize weekly planners to structure student activities efficiently.

Introducing Sahayak – your true AI teaching companion, built to empower teachers and transform classrooms.

Opportunities

- How different is it from any of the other existing ideas?
 - A unified AI platform, handles worksheets, quizzes, videos, and more with minimal models.
 - Seamless integration, low latency, and tailored for low-resource, multi-grade schools.
- How will it be able to solve the problem?
 - **MCP Architecture:** Server manages all AI tasks; client offers a lightweight, teacher-friendly app.
 - Simplifies deployment and scales easily in under-resourced environments.
- USP of the proposed solution
 - On-demand video creation transforms classrooms—helping teachers to explain complex concepts visually and effectively in less time.

List of features offered by the solution

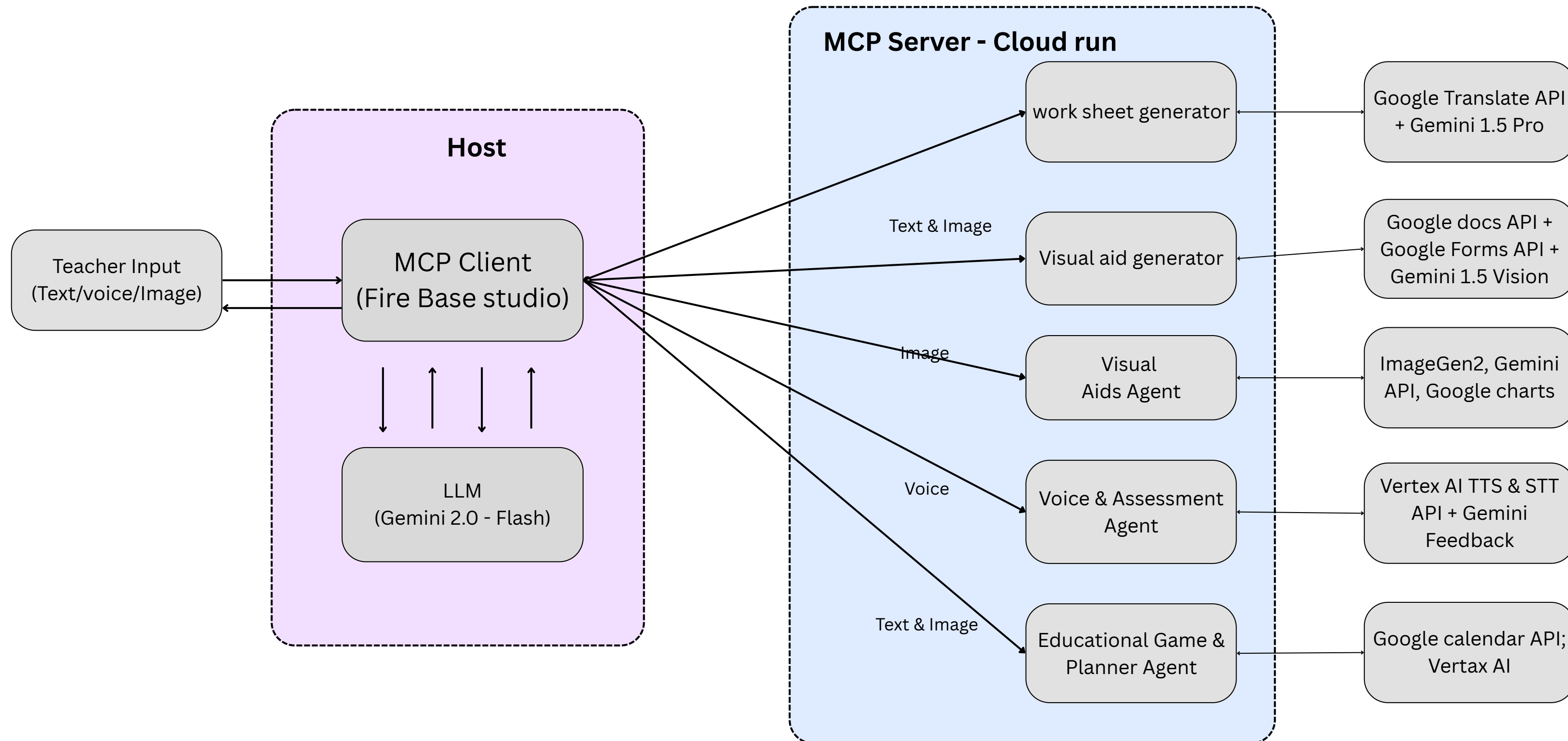
- Hyper-local content generation - Gemini 2.0 Flash
- Differentiated worksheets from images - Gemini 2.0 Flash (multimodal)
- Instant knowledge base (Q&A) - Gemini 2.0 Flash
- Visual aid generation (drawings/charts) - Gemini 2.0 Flash (image output)
- Audio-based reading assessments - Vertex AI Speech-to-Text
- Lesson planners, game generation - Gemini 2.0 Flash
- Video generation for content - Veo2, Google TTS
- Export to Docs/Forms - Google Workspace APIs

Process flow diagram or use-case diagram

Technologies to be used in the solution

| Component | Technology/Model | Purpose |
|------------------|------------------------------------|--|
| MCP Server | Cloud Run / GKE | Hosts APIs, orchestrates AI tasks |
| MCP Client | Web/mobile app via Firebase Studio | Teacher-facing interface, handles user input/output |
| Core AI Model | Gemini 2.0 Flash (Vertex AI) | Multimodal content generation, language, reasoning |
| Speech/Audio | Vertex AI Speech-to-Text, TTS | Audio assessments, text-to-speech for local language |
| Video Generation | Veo2 (Google) | Generate educational videos from audio or prompts |
| Storage | Cloud Storage / Firestore | Store materials, user data, logs |
| Integration | Google Docs, Forms APIs | Export worksheets/quizzes for HITL |

Architecture diagram of the proposed solution



Wireframes/Mock diagrams of the proposed solution (optional)



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Thank you!

