Team Name :

JAMS

Problem Statement :

CoPilot for Education

Brief about the Idea:

1. Top quality education in India is very inaccessible, private tutors are unaffordable and it become very difficult for students to choose correct path, understand complex concepts, visualization of concept, evaluate themselves etc..

2. With LLMs and GenAI we can bridge that gap between top quality education and students coming from different background.

3. **JAMS** can act as a companion for students for
   a. Explaining concepts in details.
   b. Visualizing any concepts they feel is difficult to understand.
   c. Help them better prepare, by creating mock test and testing their understanding.
   d. Rewriting the concept in configured analogies. eg: Explain Photosynthesis using football terms.

4. **JAMS** can also act as a companion for teachers for creating mock tests, evaluating students, generating the concepts in visualized format and also to create customized teaching materials for each student.

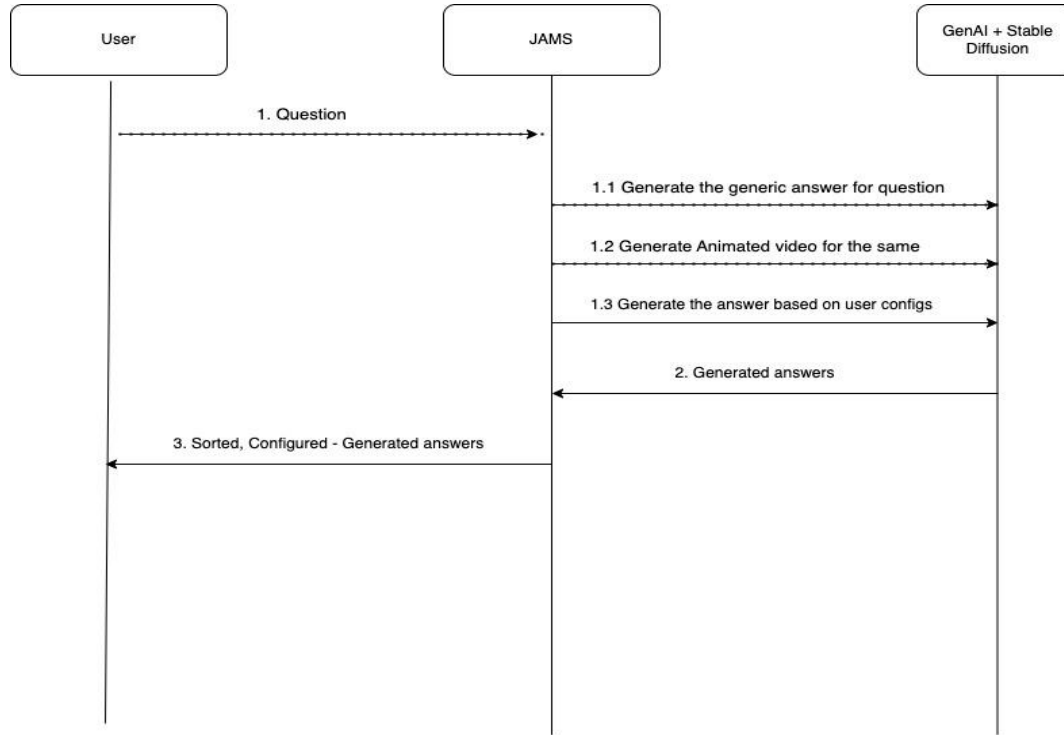5. JAMS is personalized Co-pilot for education.

Opportunity :

1. Lack of good resources for students to refer for understanding complex concepts.
2. Most of the students join coaching centers for exams preparation and for teachers it becomes difficult to give personal attention to each students and most of the students are left out to prepare by themselves.
3. With Increase in ability of LLMs in reasoning and rapidly improving generation quality of Text to Image model, it's now possible to curate very person specific high quality and accurate content.
4. LLMs and GenAI costs fraction compared to labour cost of different education institutes invest each year and with the rise of edtech and schools focusing on using technology in education, JAMS would be a perfect choice for institutes and students.
5. In 2023, 1.2 Mn students appeared only in JEE Mains, approximately 1.15 Mn students applied for UPSC prelims. 2 Mn students appeared for NEET and there are many competitive exams are in India.
6. For eg, In 2023 EdTech platform Scaler made 310 cr of revenue, and Allen made 2,277 cr of revenue.

List of features offered by the solution :

It is always better to add a few visual representations (drawings/sketches/illustrations etc.) to your presentation, it adds to the power through which it reaches the audience.
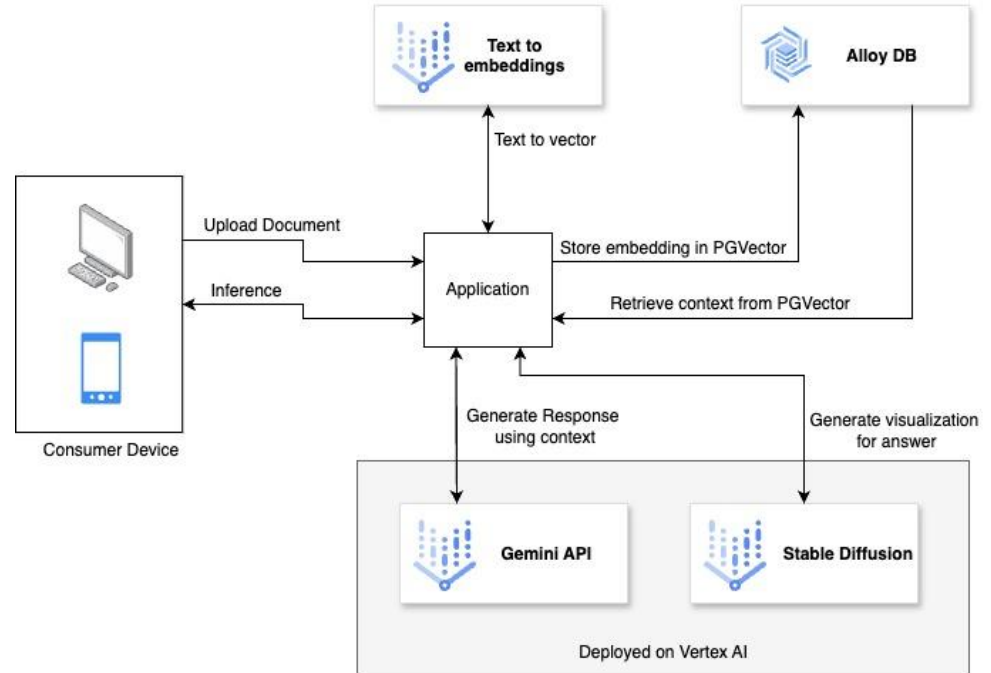
1. Concept Explanation.
2. Mock Test generation.
3. Concept understanding evaluation.
4. Concept explanation using short video/image generation.
5. Explaining the concepts in different/student choice of analogy.

Process Sequence Diagram:

Technology used :

1. VertexAI
   a. Text to embedding
   b. Gemini
   c. Stable Diffusion/Imagen
2. AlloyDB PGVector
3. Cloud Run
4. Cloud Storage
5. Cloud Logging

Estimated cost of/after implementing the solution :

Component	Price Breakdown (For 1000 requests/week)	Total Price
Gemin Pro	Avg I/P tokens per req = 2k → 2000*1000*0.000125 → $250 Avg O/P tokens per req = 2k → 2000*1000*0.000375 → $750	$1000
ImageGen	$ 0.020/image = 0.020*1000*5(image-gen per req) = $100	$100
Embeddings	One time cost: avg Book 80,000 words ~ 100,000 tokens → 0.0002 * 100,000 = $20 + Avg query size = 1k → 1000*1000*0.0002 = $200	$220
AlloyDB		$86
	Total	$1406

THANK YOU!