**Project Design Phase**

**Proposed Solution Template**

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| Date | 26 June 2025 |
| Team ID | LTVIP2025TMID20451 |
| Project Name | EduTutor AI: Personalized Learning with Generative AI and LMS Integration |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

Project team shall fill the following information in the proposed solution template.

| **S. No** | **Parameter** | **Description** |
| --- | --- | --- |
| 1 | Problem Statement (Problem to be solved) | Static, one-size-fits-all quizzes leave students bored or overwhelmed, and educators receive performance data too late to intervene effectively. |
| 2 | Idea / Solution description | An AI-driven quiz platform that uses large-language models (IBM Granite & Watsonx) to generate and adapt questions in real time, integrated seamlessly into Google Classroom, plus live heatmap analytics for educators. |
| 3 | Novelty / Uniqueness | On-the-fly quiz creation—no pre-built question banks. Difficulty adapts per student performance, powered by deep LLMs and dynamic embedding retrieval via Pinecone. |
| 4 | Social Impact / Customer Satisfaction | Drives higher student engagement and confidence by delivering “just-right” challenges; empowers teachers with actionable, real-time insights—leading to better learning outcomes and increased satisfaction among both students and schools. |
| 5 | Business Model (Revenue Model) | Freemium: basic adaptive quizzes free for individual teachers; Premium tier ($5–10/user/mo) unlocks advanced analytics, district-wide reporting, Single Sign-On integrations, and priority support for schools and educational networks. |
| 6 | Scalability of the Solution | Deployed as containerized microservices on AWS ECS with auto-scaling; stateless quiz engine and vector database (Pinecone) ensure support for tens of thousands of concurrent users with resilient failover and zero downtime. |