Project Design Phase-I

Solution Architecture

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| Date | 8th November |
| Team ID | Team-592773 |
| Project Name | Extracting Intelligent Insights With AI-Based Systems |
| Maximum Marks |  |

**Data Flow:**

1. A user submits a document through the UI or an external API request.
2. The Application Layer validates the input and triggers the Summarization Service.
3. The Preprocessing Module prepares the document for summarization, extracting relevant features.
4. The Summarization Service utilizes the Machine Learning Model to generate a summary.
5. The summary is stored in the Database and may be cached for future retrieval.
6. The UI displays the generated summary to the user.

**Scenarios:**

* *User Interaction:* A user uploads a document through the UI, triggering the summarization process.
* *API Integration:* An external application integrates with the system via APIs to automate summarization tasks.
* *Scalability:* As user demand increases, the system automatically scales by deploying additional instances of the summarization service.

This architecture ensures a modular and scalable solution, addressing the goals of finding the best tech solution, describing software characteristics, defining features, and providing specifications for the "Machine Learning-Based Summarization Model." Adjustments can be made based on specific requirements, technologies, and infrastructure considerations.