Building a Live Audio AI Interviewer

Scenario: xBites is developing an AI interviewer that conducts live audio interviews. Each AI agent is assigned to interview candidates for a specific role using predefined questions based on their seniority. The agent analyzes responses and generates a ranking based on a set of evaluation criteria.

Your task is to design an **audio conversational AI agent** to interview junior data scientists in English, below are the set of questions you will ask them along with their grading criteria:

- What is the difference between overfitting and underfitting
    - Grade : 10 grades
    - Competencies : Technical depth
- You are given a dataset with missing values. How would you clean and preprocess the data before using it for analysis?
    - Grade: 20 grades
    - Competencies: Thought process, techniques and business considerations

1. Technical Solution Design *(expected output: technical design document)*

- Design an end-to-end architecture for the live audio AI interviewer, using diagrams or flowcharts for clarity.
- Specify the frameworks and tools you would use and justify your choices with comparisons.

2. Implementation & Practical Application *(expected output: demo & evaluation methodology)*

- Develop a basic working prototype interviewing two candidates demonstrating:
    - How the agent asks audio questions and adapts the conversation.
- Evaluate the candidates and rank them

3. Model Enhancements *(expected output : document)*

- Mention the challenges in building the system.
- Suggest solutions to overcome these challenges.