Project ConvAi Self Clarification

**❓ Project Clarity Q&A (My Understanding)**

**1. Modularity**

HR and healthcare should run on a completely modular system. While core components like voice recognition and NLP can be shared, the workflows, evaluation logic, and form structures are domain-specific and must be independently configurable to meet the unique requirements of each field.

**2. MVP vs. Enterprise**

We are building an MVP (Minimum Viable Product) first. The goal is to validate the core concept of voice-driven form automation and natural interaction within HR and healthcare settings. This will allow us to gather early feedback, refine the experience, and prioritize features before scaling to a production-ready enterprise version.

**3. Context Retention**

Yes, AI should remember past inputs within the same session for better continuity. This enables follow-up questions to focus only on missing or unclear information. For hospitals, this helps maintain a compassionate, flowing conversation. In HR, it supports a more professional and analytical dialogue, reducing repetition and improving form completeness.

**4. Interruptions Handling**

If the user interrupts or shifts topic mid-answer, the AI should continue listening and intelligently use whatever data is provided. It should then naturally guide the user back toward unanswered or unclear fields through creative, human-like follow-up questions. The conversation must remain fluid and non-robotic, focused on extracting all required form details without sounding like a basic chatbot.

**5. Tone Adaptation**

Yes. The AI should adjust its tone based on the user's emotional signals using emotion detection techniques—ideally through prosody in voice and NLP sentiment cues. For hospitals, the AI should be friendly and empathetic to make patients feel comfortable. For HR, the tone should be professional and supportive while testing creativity and composure. This adaptability enhances trust and improves data quality.

**6. Critical Fields**

Yes, some form fields are more important than others, such as patient name, age, medical history in hospitals or experience and role-relevance in HR. These should be prioritized during the interaction. For example, if a patient gives a long explanation, the AI should first try to extract these high-priority fields and follow up accordingly:

**Example:**  
**AI:** Can I confirm your name and age, please?  
**Patient:** I’m Priya, 42 years old.

Later:  
**AI:** You mentioned chest pain and dizziness—can you tell me if you’ve experienced this before or have any known conditions?

**7. Field Precision**

No, the AI should not settle for vague answers. It must politely ask follow-up questions to clarify and ensure data precision.

**Example:**  
**AI:** You mentioned “I’ve been feeling off lately.” Could you describe what symptoms you’ve been having?  
**Patient:** Mostly headaches and fatigue.

**8. HR Scoring**

The candidate will be rated based on:

* Clarity and completeness of self-introduction.
* Relevance of experiences and strengths.
* Confidence in speech delivery.
* Appropriateness of answers to standard HR questions.
* Communication style and fluency.

**Example HR Questions Automated by AI:**

* Tell me about yourself.
* Describe your ideal work environment.
* What are your strengths and weaknesses?
* Why should we hire you?
* Are you a team player?
* What motivates you?
* Can you work under pressure?

**9. Bias Mitigation**

Evaluation should avoid accent, speech pace, or cultural bias. The system must be trained on diverse voice datasets and use neutral NLP-based scoring.

**10. Question Generation**

A mix of both. The AI should begin with pre-scripted questions to capture the basic required details, such as 'Tell me about yourself' or 'What are your strengths?'. Once foundational data is gathered, it should dynamically generate follow-up questions based on the candidate’s responses to extract deeper, more specific insights.

**Example: Dynamic HR Interview with Aravind**

**AI:** Hello Aravind, welcome! To start, please tell me about yourself.  
**Aravind:** Hi, I’m Aravind. I have 4 years of experience in software development, mainly working with Java and Python. I enjoy problem-solving and working in agile teams.

*AI analyzes response — extracts skills, experience, interests.*

**AI:** That’s great, Aravind! Can you tell me about a challenging project you worked on recently and how you handled it?  
**Aravind:** Sure. I led a team to migrate a legacy system to the cloud. It was tough because of tight deadlines and limited resources, but we prioritized tasks and collaborated closely.

*AI detects leadership, problem-solving skills.*

**AI:** Impressive! How do you usually handle pressure during critical project phases?  
**Aravind:** I stay organized and communicate openly with my team to manage stress effectively.

*AI notes teamwork, stress management.*

**AI:** What motivates you most in your work?  
**Aravind:** Learning new technologies and seeing my work have a real impact motivates me a lot.

**AI:** Thanks, Aravind. Based on your responses, you seem well suited for a collaborative and dynamic environment. One last question — what are your expectations from the company?  
**Aravind:** I’m looking for growth opportunities and a supportive team culture.

**11. Continuous Learning**

Yes. By analyzing failed or incomplete sessions—such as when a patient stops midway or a job candidate provides minimal answers—the system can learn to optimize its approach. It will identify what type of prompts failed to engage users or didn’t extract enough detail. This insight can be used to improve the AI’s follow-up strategies, making future interactions more efficient, conversational, and targeted. Over time, the system will become better at obtaining complete, high-quality information quickly while maintaining a natural flow.

**12. Voice Controls**

The AI will behave like a human in a natural conversation. If a user requests to repeat or skip a question, the AI will respond accordingly without breaking the conversational flow. It won’t rely on strict command-based controls but instead will use conversational cues to understand intent. For instance, if a user says, “Can you repeat that?” or “Let’s move on,” the AI will adapt and continue the conversation fluidly while still aiming to gather the necessary information.

**13. Voice Output**

For the MVP, the interaction will be text-to-text: the human speaks (using speech-to-text), and the AI responds in text form. This approach simplifies initial testing and development. In the final product, the AI will use a natural-sounding synthetic voice rather than a robotic or overly artificial one. The goal is to maintain a realistic, conversational tone that enhances the user experience without relying on pre-recorded human voices.

**14. User Access Points**

The primary interface will be a web application. Users—patients and job seekers—will interact with the AI through this platform. In hospitals, the AI will fill intake forms using patient responses, streamlining the registration process. In HR, it will evaluate candidates by asking predefined and dynamic questions, providing ratings and summaries. The final product will be a service that clients (hospitals and companies) can subscribe to and deploy in their operations.

**15. Offline Access**

In hospitals, limited offline functionality could be supported for rural or low-connectivity environments. However, the ideal operation mode is online to allow access to global features such as cloud-based processing, updates, and analytics. The web app will be optimized for real-time communication and data extraction, which benefits from being always connected.

**16. Consent Method**

User consent will be captured through multiple mechanisms depending on the context. For the MVP, a checkbox on the web interface will be used for simplicity. In the final product, consent can be recorded through voice confirmation (e.g., "Yes, I agree") and/or digital signature. The system will clearly inform the user about data collection and usage before any interaction begins.

**17. Data Retention**

Voice data will be stored temporarily for processing purposes and then deleted, unless explicit consent is given for longer retention. Textual data extracted from conversations will be stored long-term for research, testing, and model improvement, as the AI learns and adapts with every interaction to enhance accuracy and efficiency over time.