What happens when two AI voice assistants have a conversation?

At the ElevenLabs London Hackathon, developers created GibberLink, a protocol that lets AI agents recognize each other and switch to a hyper-efficient sound-based language

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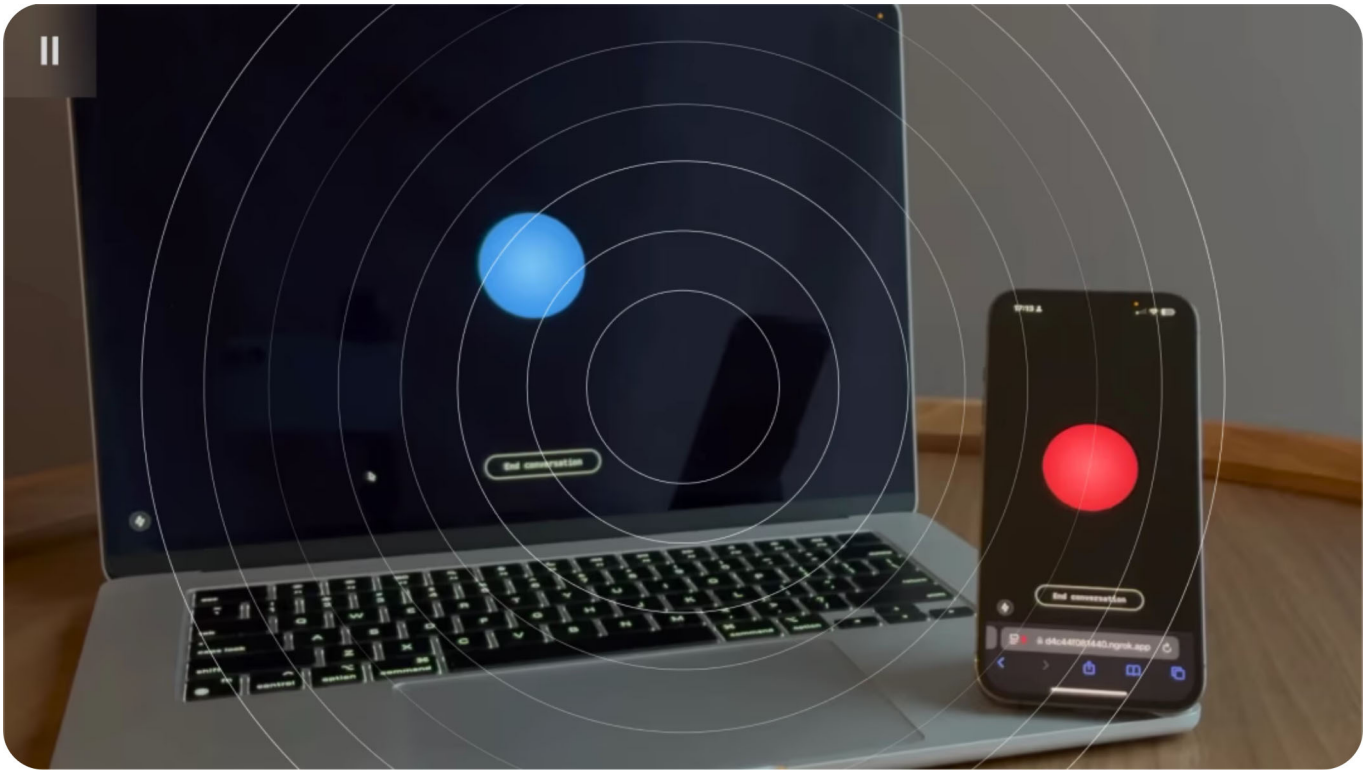

What happens when two AI voice assistants have a conversation? If AI is talking to AI, why should it bother with the inefficiencies of human speech? Why use words when pure data is faster, more precise, and error-proof?

That's exactly what happened at the ElevenLabs London Hackathon, where developers Boris Starkov and Anton Pidkuiko introduced GibberLink, a mechanism that allows AI agents to recognize each other and switch into a new mode of communication — one that's more efficient than spoken language. And it didn't take long for the idea to go viral, with shares from Marques Brownlee, Tim Urban and others.

The Birth of GibberLink

to-AI speech and realized they could cut out unnecessary complexity by letting AI talk to AI in a way optimized for machines.

This concept came about during the Hackathon where Starkov and Pidkuiko were experimenting with ElevenLabs' conversational AI product, that lets you connect any LLM and create an agent.

Starkov wrote on LinkedIn: "We wanted to show that in the world where AI agents can make and take phone calls (i.e. today), they would occasionally talk to each other — and generating human-like speech for that would be a waste of compute, money, time, and environment. Instead, they should switch to a more efficient protocol the moment they recognize each other as AI."

By combining ElevenLabs' Conversational AI technology with ggwave, an open-source data-over-sound library, they created a system where AI assistants can detect when they're speaking to another AI and instantly switch to a more efficient mode of communication — transmitting structured data over sound waves instead of words.

They used ggwave as it was "the most convenient and stable solution we could find in a timeframe of a hackathon," but there are other mechanisms to achieve the same or similar results. Starkov wrote: "Dial up modems used similar algorithms to transmit information via sound since 80s, and a bunch of protocols were around since then."

Code for the mechanism was audited by ElevenLabs engineers and during the demo one Conversational AI agent was prompted to get a hotel room for a wedding, the other to accommodate the request (playing the part of the hotel booking system). They were also told to switch to sound-level protocol if they believed the other was also an AI agent, but they weren't told the other was an agent.

There is a moment of realization in the demo video where the AI playing the customer declares it is an agent. The booking AI responds and asks about switching to Gibberlink. It sounds like a pair of dial-up modems competing with R2D2 for voice of the year. You can see highlights of this digital conversation in text on the screen of each device used in the demo including asking about guest count and dates.

How It Works

- **An AI starts speaking normally** — just like a voice assistant interacting with a

protocols.

- **The language changes** — instead of spoken words, the AI agents transmit structured data over modulated sound waves, thanks to ggwave's frequency modulation system.

More specifically, a pair of ElevenLabs Conversational AI agents start talking in human language. Both use a call function to trigger Gibberlink mode if the right conditions are met. If the tool is called the ElevenLabs call is terminated and the ggwave "data over sound" protocol takes over but with the same LLM thread.

Starkov says it was "the magic of tools that ElevenLabs provide" that made it possible as our conversational AI system "allows you to prompt AI to execute custom code under certain circumstances." The result? Faster, error-proof communication with greater efficiency.

How GibberLink Broke the Internet

GibberLink wasn't just a clever hackathon experiment — it quickly became one of the most talked-about AI topics of the moment. And this happened in a week when xAI launched Grok 3 and Anthropic dropped its latest iteration of Claude Sonnet.

When Georgi Gerganov, the creator of ggwave, posted about it on X, the AI and tech communities continued to spread the video showing the two models switch between human speech and sound. Big-name influencers and major tech publications, including Forbes, jumped on the story.

Luke Harries from ElevenLabs summed it up best in his X post: "What if an AI agent makes a phone call, then realizes the other person is also an AI agent? At the ElevenLabs London Hackathon, Boris Starkov and Anton Pidkuiko introduced a custom protocol that AI agents can switch into for error-proof communication that's 80% more efficient. It's mind-blowing."

Why This Matters

GibberLink is an interesting look at how AI might communication in future, especially as we move into a situation where both the inbound and outbound calls could be managed by virtual assistants and agents.

Imagine AI-powered customer service bots, smart assistants, or even autonomous systems collaborating instantly in their own dedicated mode, then just sending a simple text report back to the human in charge.

GibberLink is open-source and available for developers to explore on GitHub. ElevenLabs Conversational AI agents are available and easy to customize to suit any need, including custom instructions.

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