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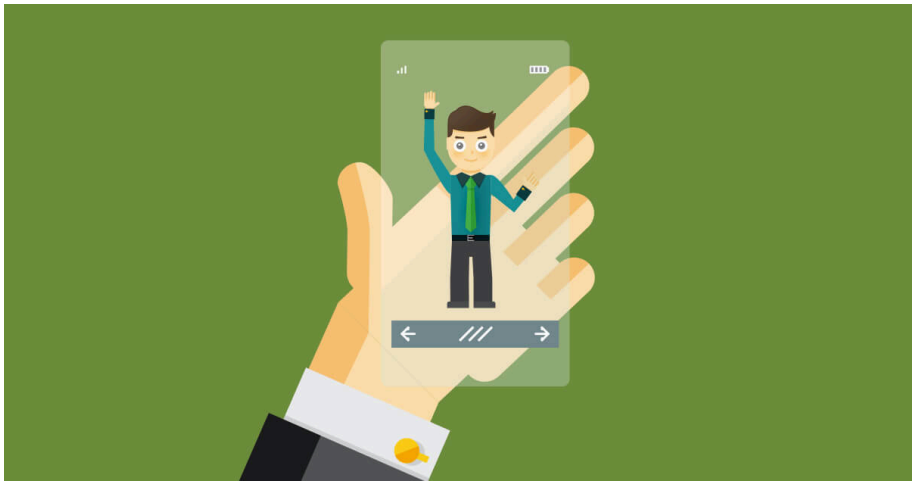
By James A. Larson program co-chair, SpeechTEK 2021
Forward Thinking

Searchable CAs Will Make Conversational AI More Convenient



Conversational assistants (CAs) are rapidly becoming an integral part of our daily lives. Sometimes called voicebots (voice) or chatbots (text), these tools, powered by artificial intelligence, facilitate task completion through natural language interactions, whether spoken or typed. From the ubiquitous Siri and Alexa to specialized domain-specific CAs such as Bank of America's Erica for banking and Domino's Anywhere for fast food delivery, CAs offer a wide range of capabilities.

The advent of large language models, like those powering OpenAI's ChatGPT, Microsoft's Copilot, and Google's Gemini, has ushered in a new era for CAs. These models can provide comprehensive and informative responses to complex queries, generate creative text formats, and even translate languages.

But as CAs proliferate, they'll also become harder to discover—finding the ideal one for a specific task could become a challenge. That's where CA search engines will come in.

The Convenience of CAs

One of the primary advantages of CAs is their user-friendliness. Unlike traditional interfaces

Many of our frequently used computer systems can be transformed to support conversational interfaces. By integrating CAs with databases, websites, or apps, developers can enable users to interact with these systems through natural language commands. This can be achieved by modifying existing systems or by implementing extensions that facilitate conversational interactions. Some possible extensions include front ends for database management systems that convert users' natural language requests into structured query language (SQL); websites that convert requests into searches of the website; and apps that convert requests into commands that can be processed by the app.

Discovering the Best CA

Users typically invoke CAs directly by name, such as, "Alexa, what is the closest pizza shop to me?" or "Domino's Anywhere, I want to order a large cheese and pepperoni pizza." However, with the growing number of CAs, it might be difficult for users to remember the exact name of a specific CA. But with CA search engines, that hurdle goes away. These engines can help users identify relevant CAs based on their requests, similar to web search engines.

How CA Search Engines Work

CA search engines follow these steps to find the best CA for a specific purpose:

Request acceptance: The search engine accepts user requests in either text or spoken format.

Index search: The engine searches its index for CAs that match the extracted keywords and intent from the user's request.

Result ranking: Using sophisticated algorithms, the engine ranks CAs based on factors such as relevance, quality, location, and search history.

CA invocation: The most relevant CA is then launched, allowing the user to interact with it.

Flexibility of CA Search Engines

CA search engines can be tailored to various use cases, including (a) personal search—find any CA that you have previously used; (b) company search—help employee and customers find company-provided CAs; and (c) general-purpose search—helps you discover any of the tens of thousands of CAs that will soon be available worldwide.

CA search engines can also be adapted to oversee multiple tasks within a single request. Some CA search engines might be extended to also support AI planning, so they can manage complex requests like the following:

- Access multiple CAs to determine the price of a specific item.
- Conditionally access a second CA based on the results from an initial CA. For example, you'll use a CA to book a trip to a beach resort, then use another CA to purchase accessories, such as sunscreen, sunglasses, or a beach chair, needed for the trip.
- Sequence the execution of multiple CAs, such as booking a trip using an airline CA, a hotel CA, and a car rental CA.

The future is brimming with potential for conversational assistants. As AI technology continues to advance, we can expect to see a surge in the number and capabilities of CAs. The development of efficient CA search engines and planning systems will further enhance user experience and make CAs an indispensable tool in our digital lives. x

James A. Larson, an independent voice technology expert, can be reached at jim42@larson-tech.com.