



Thrive Assistant

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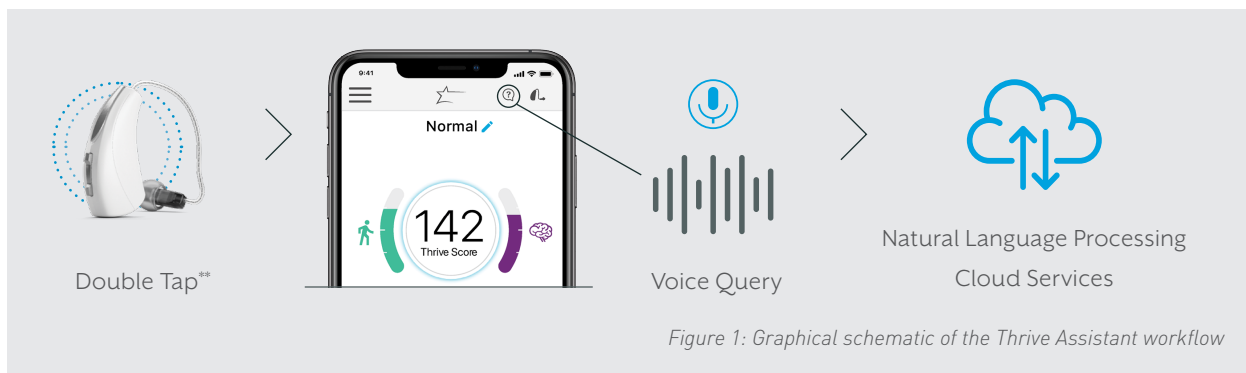
Voice assistants such as Google Assistant™, Siri®, and Amazon™ Alexa are recent mainstream technologies created to provide users with an easy way to obtain information, or to carry out simple tasks. These systems are available using a smartphone or a smart home speaker and allow users easy access to information simply by using their voice. Audible replies are typically provided, sometimes in addition to an interactive visual interface.

This effortless interaction with the technology has propelled its worldwide adoption and use, especially among older adults¹. Instead of typing out lengthy queries in a search box, a user simply says, “What is today’s weather?” as if in a conversation with a friend.

Thrive™ Assistant is intended to provide hearing aid users with an accessible gateway to information, as well as to augment usability of Starkey® products. In addition to being able to ask general questions, Livio® AI and Livio hearing aid* users may ask questions related to hearing aid use, for instance, “What is the Thrive score?” Instant information access to hearing aid use and management could greatly improve on-boarding of users who are new to Starkey products, or who simply need a quick reminder on how to carry out certain tasks.

The use of interactive digital assistive technologies has been integrated with Starkey hearing aids in the Livio product line and is readily accessible when connected with the Thrive™ Hearing Control app. Thrive Assistant may be easily assigned to the double tap function using the Thrive app for effortless interaction. Simply double tap the hearing aid to initiate the feature and ask a question.** Audible replies will be directly streamed back through the hearing aids.*** It is also possible to initiate the feature from within the Thrive app itself.

Thrive Assistant leverages intelligent, natural-language processing capabilities as well as advanced cloud-based services to provide users with real-time access to information (Figure 1). When the feature is initiated either through a double tap on the hearing aid or using the Thrive app, the user’s voice query is sent to the cloud to be processed. The voice query is first converted into text using automatic speech recognition processing. The intent of the query is then interpreted through complex natural language algorithms. Questions related to using Starkey products are recognized and the appropriate content is provided to the user. Questions that are more general in nature are parsed through search engines and the appropriate content is returned.



Being a user-initiated feature, Thrive Assistant is only activated when the user wants it to, unlike other interactive digital assistant systems that are always listening for audible commands.

The development of Starkey-owned content for queries involved the training of unique phrases (in multiple languages) to be able to identify the intended content. The user does not have to memorize commands but can ask their question in a way that is natural to them. This, together with being able to use a double tap gesture to initiate the feature, provides users with an effortless means of interacting with the system.

Ten hearing-impaired adults (average age 67 years) were recruited to participate in a usability study to evaluate the ease of use and learnability of the feature. Participants were asked to evaluate the feature for approximately a week, and then complete a modified System Usability Scale (SUS)². Developed in 1996, the SUS is a 10-item scale that is commonly used to measure the quality of the user's experience when interacting with a product.

SUS scores of 60 or above generally mean that a product or feature is easy to learn or use.³ In our study, participants scored an average of 66 when provided with minimal instructions on how to use the feature. A higher average score of 76 was obtained when the hearing professional provided some guidance during a follow-up session. Thrive Assistant was generally reported to be well accepted by all participants in its ease of use and ability to access relevant information.

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