

Cloud-based clinical speech and language understanding SDKs for mobile, web, and desktop

Challenge

The shift from paper to digital was intended to make healthcare simpler, cheaper, and more efficient, but in reality, the switch has created a complex system that is putting greater demand on doctors and other healthcare professionals instead of giving them more time to spend face-to-face with their patients. So how do we get technology to work for doctors rather than against them?

Solution

In order to solve the complex problems plaguing healthcare, we must take innovative approaches that leverage today's emerging technologies. To address these issues, intelligent systems built with speech and clinical language understanding (CLU) are being integrated into clinical workflows to help physicians focus more on their patients and less on technology.

The Nuance Healthcare Development Platform is a complete, global development ecosystem and delivery platform for healthcare developers who want to securely embed clinical speech and understanding technology in their applications.

- **With clinical speech recognition**, users can securely document free text in a fraction of the time by using their voice. Additionally, developers can choose from more than 20 languages and the integration takes mere minutes.
- **With clinical language understanding**, Nuance automatically extracts discrete, meaningful data—problems, procedures, allergies, medications, vitals, social history—from physician narratives and notes to improve clinical documentation.

The platform is also made up of embeddable, cloud-based services and software development kits (SDKs) that can work independently or together to streamline workflows and ensure the capture of quality clinical data across the care continuum. By moving processing power to the cloud and making it accessible through device/platform-specific SDKs, deployment barriers are eliminated, providing reliable access to speech recognition and clinical language understanding on mobile operating systems, web browsers, and desktops.

Key benefits

- Easy to integrate with platform-specific SDKs for mobile devices (iOS, Android), web browsers (Internet Explorer, Firefox, Chrome, Safari), and desktops (.NET, COM)
- Easy to deploy and scales with your business
- Secure end-to-end transmission using TLS protocols

Key features:

- Free to evaluate and test
- Developed by a world-leader in voice and understanding technologies
- Global, enterprise-class, speech platform with hosted (USA only) and on-premise (EMEA, APAC, and LATAM only) configurations
- On-premise systems available in more than 20 languages
- Cloud-based CLU technology for USA-based developers

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Speech and understanding in the cloud



 **Dragon Medical SpeechKit**
Clinical Speech Recognition

- Increases productivity and documentation capture
- Promotes physician satisfaction by providing a ubiquitous user experience across platforms
- Improves financial performance by reducing or eliminating documentation costs
- Raises the quality of care by enabling documentation creation and review in one step



 **Clinical Language Understanding (CLU) SDK**
Clinical Fact Extraction

- Addresses physicians concern for efficiency
- Preserves the patient's unique clinical story while supporting structured data needs
- Integrates directly into existing workflows and enhances acceptance
- Streamlines EHR population by extracting clinical facts from clinical dictations

Features and benefits

- **3-5x faster than typing**
Most physicians type less than 40 words-per-minute, but speech recognition allows them to document 3 to 5 times faster, and while on-the-go.
- **Robust medical vocabulary**
Always have up-to-date access to the latest medical dictionary, terms, phrases and clinical formatting rules in addition to user customized vocabularies.
- **Healthcare-compliant speech recognition**
Speech-related data is communicated using TLS protocols to ensure end-to-end security.
- **Built-in productivity tools**
Powerful features, like automatic accent detection, deliver accurate results out of the gate, while additional workflow tools, like AutoTexts and vocabulary management, further increase user productivity and efficiency.
- **Visualization and feedback**
Visual indicators tell users where speech is enabled, when audio is being captured, and displays recording levels. Integrated text-to-speech supports conversational interactions.
- **Voice navigation and commands**
Navigate and make corrections using voice or control audio capture and text corrections using familiar prompts on mobile devices.

Clinical fact types

- **Problems/Diagnoses**
Facts classified to SNOMED.
Attributes: Name and status (active, history, chronic, resolved, recurrent).
- **Medications**
Facts classified to RxNorm.
Attributes: Name, dosage, route, strength, form, frequency, duration.
- **Allergies**
Facts classified to SNOMED and RxNorm.
Attributes: Absence of known allergies, drug, environmental, or allergies not dictated.
- **Vital Signs**
Facts classified to SNOMED.
Attributes: Blood pressure, height weight, temperature, pulse, respiratory rate, oxygen saturation level, body mass index.
- **Procedures**
Facts classified to SNOMED.
Attributes: Name and date.
- **Social History**
Facts classified to SNOMED.
Attributes: Substance (tobacco or alcohol), status, frequency.

Top 5 reasons to integrate speech and CLU

A variety of factors are putting pressure on healthcare organizations to improve clinical documentation—from regulatory, economic, and legal concerns to patient safety and satisfaction standards.

1 Improve clinician satisfaction:

Clinical professionals can spend more time with patients by using speech and CLU to speed up EHR documentation, capture the patient's unique story, and create more complete documentation that improves outcomes and the quality of care.

2 Increase clinician EHR adoption and improve compliance:

By allowing practitioners to use familiar and preferred input methodologies, your customers are able to boost documentation and Meaningful Use compliance, and avoid cumbersome and unproductive manual data entry.

3 Improve volume and quality of data:

Your clinical users can capture more accurate and complete data with intelligent speech-enabled documentation that utilizes clinical language and gives healthcare organizations a richer array of clinical data.

4 Significantly reduce documentation costs:

Save money at all levels by not only dramatically reducing the time for data input and documentation, but by also increasing clinician productivity by giving them the ability to dictate directly into the EHR with speed and accuracy in a context-aware manner.

5 Achieve greater accuracy:

From speech-enabled clinical documentation and CLU comes the potential for dramatic improvement in data input quality. This helps to ensure better patient outcomes, facilitate clinicians' readiness for audits under healthcare compliance initiatives and, most importantly, avoid the possibility of life-threatening errors.

Become part of our growing healthcare developer community

Join the more than 1,000 healthcare developers worldwide who have already started enabling intelligent, conversational user interfaces across mobile, web, and desktop apps to simplify the day-to-day duties of the modern clinical professional.

Register (it's free)

Start your free evaluation today by registering at nuancehealthcaredeveloper.com.



Integrate & evaluate

Gain access to all SDKs, documentation, demo apps, and support forums as you integrate and evaluate Nuance cloud-based technology.



Launch your app

Sign a commercial agreement, take advantage of co-marketing opportunities, and promote your Nuance integration.

What our development partners say about the program:

“The Nuance Healthcare Development Platform offers unique innovations that empower our clinicians to speak naturally during patient encounters while the information necessary or robust documentation is collected in the background, increasing provider productivity and enhancing the quality of the clinical experience for both patients and providers.”

Peter Ragusa, MD, MPH
CEO and Co-founder,
Better Day Health

“The Nuance Healthcare Development Platform enables us to enhance the usability and accessibility of our mobile health-care solutions with intelligent voice and understanding technologies, and Nuance offers us uncompromising support and flawless communication.”

Dennis Carson
CEO, Master Mobile Products

What their customers say about the technology:

“Leveraging Nuance’s secure and HIPAA-compliant, cloud-based clinical speech recognition from a mobile device has allowed our physicians to immediately dictate their notes into the patient’s chart, making this important information immediately available to others. This workflow has been essential for us. Now, when the next physician arrives to see the patient, even a few minutes later, the first physician’s notes are already available in the chart for review.”

Eddy Stephens
Vice President and Chief Information Officer, Infirmity Health

“Nuance speech-to-text technology untethers physicians from the desktop and allows doctors to speak their clinical note and post it to the EHR from a mobile app, using their time much more efficiently.”

Jeremy Bernstein
Chief Technology Officer,
UC San Diego Health System

Integrate secure, cloud-based-speech and CLU into your mobile, web, and desktop apps. Start your free evaluation today by registering at www.nuancehealthcaredeveloper.com.

To learn more about third-party solutions with clinical speech and clinical language understanding by Nuance, visit poweredbynuancehealthcare.com.

About Nuance Communications, Inc.

Nuance Communications, Inc., is a leading provider of voice and language solutions for businesses and consumers around the world. Its technologies, applications and services make the user experience more compelling by transforming the way people interact with devices and systems. Every day, millions of users and thousands of businesses experience Nuance’s proven applications. For more information, please visit www.nuance.com/healthcare. Connect with Nuance on social media through the healthcare blog, [What’s next](#), as well as [Twitter](#) and [LinkedIn](#).
