

# SpeechMagic™

Speech recognition-based information capturing

SpeechMagic provides speech recognition for the instantaneous capturing of information—ensuring that clinicians generate and receive accurate medical reports and patient information, when and where needed.

A seamless flow of information can raise the quality of service and treatment outcome; it is essential for managing the healthcare enterprise efficiently, while raising individual productivity and freeing up resources for patient treatment and care.

## Choosing speech-based information capturing

- Eliminate turnaround time:** Speech recognition is a fast and convenient method to create medical documentation and input information into electronic health records. Reports can be validated by the author instantly—at the point of dictation.
- Increase transcription productivity:** Proof-reading and editing text drafts delivered by backend speech recognition is significantly faster than transcribing recorded dictations. Productivity gains in transcription departments range up to 70%.
- Roll-out fast:** Giving doctors the choice between frontend and backend speech recognition delivers to individual workflow preferences and eases change management in large-scale implementations.
- Save money:** Hospital-wide speech recognition has been described as “the most profitable IT project ever”. SpeechMagic allows Vejle hospital in Denmark to treat 7% more patients; it saves Oslo University Hospital 900,000 EUR a year.

## Industry Proven and Approved

SpeechMagic is used in trust-wide NHS implementations in the UK, the AP-HP public hospital network in Paris, regional healthcare systems in Spain, Italy and Scandinavia, in all German university hospitals and in the world's largest healthcare speech recognition platform in the US with more than 100,000 users. SpeechMagic itself and many of the eight thousand implementation sites in 63 nations have been recognized for outperforming in healthcare efficiency, service quality and innovation.

## Technology Leadership Award



**Frost & Sullivan Global Speech Recognition Technology Award** –

for demonstrated leadership in the field of healthcare speech recognition technologies.



**Frost & Sullivan Technology Leadership Award** – most widely used speech

recognition technology in European healthcare.

## Most Innovative Speech Recognition Award



**Most Innovative Speech Recognition Solution Award** – bestowed upon Borgess Medical Center in the US for saving more than \$200,000 USD in transcription costs within the first year of deployment.

## eHealth Innovation Award



The radiology department of the Diana Princess of Wales hospital in the UK reduced turnaround time by combining a PACS with speech recognition.

## Technology Idea of the Year Award



By implementing SpeechMagic, radiologists at United Surgical Partners Europe now have a guaranteed maximum report turnaround time of 15 minutes.

## SpeechMagic reporting

SpeechMagic supports a variety of reporting scenarios which enable physicians to choose their preferred and most efficient document creation workflow.

- **Back-end speech recognition.** The user dictates directly into the computer or on a mobile dictation device. The dictation is converted into text in the background and then transmitted to an in-house or outsourced transcription service for editing.
- **Front-end speech recognition with deferred correction.** The recognized text appears directly on the user's screen. After finishing the dictation, the text and audio files are edited by your transcriptionist.
- **Front-end speech recognition with online correction** Physicians have full control of their reports; recognition and correction are done directly, by themselves, on their PC.
- **Speech recognition in disconnected mode.** Physicians can access the dictation and speech recognition system outside the central network, on a laptop or tablet PC. Upon reconnecting the device to the network, the central functions and services are performed.

**“Voice recognition works – even in the middle of a busy Emergency Department! It allows me to save significant time while fully fitting into the mobile working conditions of this environment. The recognition rate is extremely high, requiring minimum correction time on my part. As a result, completed reports are made available and shared with all appropriate parties prior to the patient or physician leaving the hospital. The system surely shows great potential for working in an emergency department setting.”**

– Dr. Stephen Rosenthal, ER Specialist  
Sir Mortimer B. Davis, Jewish General Hospital  
Montreal, QC, CAN

## Intelligent Speech Interpretation

SpeechMagic developed Intelligent Speech Interpretation (ISI) technology and allows the understanding of natural language, thus reducing the correction effort for both the transcriptionists and the physicians who look after the reporting process themselves.

It leaves out the ‘um’s and ‘eh’s, ignores dialog that is not part of the dictation, implements corrections that are dictated as part of the text, fills the information into forms, and even rephrases sentences.

And, not least, it formats and organizes text, for example adding section headings, numbering lists and inserting standard blocks of content.

In fact, SpeechMagic emulates the capabilities of a good medical transcriptionist in order to generate usable reports with a minimum of human intervention.

## Highlights: Industrial grade speech recognition made for healthcare

- **Accuracy:** Over 150 recognition vocabularies (ConTexts) cover a broad spectrum of medical terminology.
- **Continuous learning:** Words can be added to the ConTexts; users' dialects and accents are considered in the individual voice profile.
- **Convenience:** Direct dictation into medical templates and fields – physicians can define the optimal documentation workflow for their area. Auto-texts and smart fields can be used to populate parts of the report automatically, which reduces dictation volume.
- **Hands-free navigation:** Controlling the reporting application by voice is becoming an increasingly important aspect of infection control.
- **IT administration:** A network-based system, maintained centrally, reduces the strain on IT resources. Failover concepts ensure high availability.

**Document creation with Intelligent Speech Interpretation**

**1. Section of the original dictation**

Examination date is September 18 two thousand four

the patient takes the following medications number one glucotrol five milligrams twice a day number two lotensin twenty milligrams daily number three calan s r two forty milligrams daily objective the weight is one sixty two blood pressure is one fifty eighty the chest is clear to percussion and auscultation end of dictation thank you

**2. Intermediate transcription. ISI features marked in blue**

Date of exam: 09/18/04

{MEDICATIONS}

[1] Glucotrol            5 mg b.i.d.  
 [2] Loensin              20 mg q.d..  
 [3] Calan                240 mg q.d

{OBJECTIVITY}

weight 162 kg, blood pressure 150/80.

{CHEST}

clear to precussion and auscultation.

**3. Final transcription, laid out according to corporate guidelines**

Patient: David James  
 Patient data: 18225/dh15051977

Date of exam: 09/18/04

**History of Present Illness**  
 This is a 23-year-old patient with a fever, cough, congestion, upper respiratory type symptomology that have been going on for the last day or so. No complaints of other difficulty. The severity is mild to moderate, and the duration has been for the last day or so. Timing: Intermittent. Modifying factors: None. Associated symptoms: None.

**Past Medical History**  
 Negative, the patient is in good health.

**Medications**

Glucotrol	5 mg b.i.d
Lotensin	20 mg q.d
Calan SR	240 mg q.d

**Objective**  
 Weight 162 kg  
 Blood pressure 150/80

**Chest**  
 Clear to percussion and auscultation

powered by  
**SpeechMagic™**

**Speech-enabling healthcare IT**

SpeechMagic is widely integrated into healthcare IT systems for seamless compatibility with IT networks and legacy systems.

All standard healthcare IT applications can be powered by SpeechMagic:

- Hospital Information Systems
- Electronic Health Record systems
- Picture Archiving and Communication Systems (PACS)
- Departmental information systems (RIS, CVIS, etc.)
- Reporting workflow applications
- Transcription platforms

## Nuance Healthcare Solutions

**Dragon® Medical**—A real-time speech recognition program that works with virtually any Windows®-based or Citrix® EMR system for efficient report completion, and easy navigation and adoption of the EMR.

**Dictaphone Enterprise Express® Products**—On-premise dictation and back-end speech recognition solutions that offer sophisticated technology and editing capabilities. **Dictaphone Enterprise Express® Speech System** is a key option, which recognizes physicians' dictation and routes it to a transcriptionist for final editing. Clinicians create, review, edit and sign reports with **Dictaphone Enterprise Workstation®**.

**eScription**—On-demand platform for computer-aided medical transcription, using background speech recognition to turn clinician dictation into formatted draft documents that medical transcriptionists—whether in-house or outsourced—can quickly review and edit, often doubling productivity.

**PowerScribe® for Radiology**—A web-based speech recognition solution that can help radiology departments significantly reduce report turnaround time and lower transcription costs by as much as 75%-100% a year.

**RadCube™ for Radiology**—A comprehensive, yet flexible, data warehouse for multidimensional business analysis and visualization.

**RadPort™ for Radiology**—A secure, web-based decision support application for appropriate diagnostic image order entry that satisfies pre-certification requirements.

**RadWhere™ for Radiology**—A data-driven, front-end speech recognition reporting application designed for multi-site workflow orchestration.

**Veriphy™**—A critical test results management solution that enhances patient care, increases physician productivity, improves risk management and automates compliance.



RadWhere™  
for Radiology



Dragon®  
NaturallySpeaking®  
Medical 9



eScription



SpeechMagic is Citrix Ready™, allowing for full-scale speech recognition within a thin-client infrastructure: numerous authors can dictate simultaneously anywhere within the Citrix network in both front-end or back-end recognition mode. Hospitals with an existing Citrix network can now easily and without compromise roll-out speech recognition.

## About Nuance Healthcare

Nuance Healthcare is a division of Nuance Communications, the world's leading provider of speech and imaging solutions. Today, Nuance Healthcare provides the most comprehensive family of speech-driven clinical documentation solutions available anywhere. Our vision is to accelerate the adoption of EMR systems, helping providers maximize the return on their technology investments.

## The SpeechMagic line: Individual speech recognition consulting

SpeechMagic is robust, scalable and perfectly adapted for fast integration into a clinical environment. Please contact us to discuss your individual situation and a potential roll-out plan at **888 SPEAK 50, [info.speechmagic@nuance.com](mailto:info.speechmagic@nuance.com), or visit us at [www.nuance.com/healthcare](http://www.nuance.com/healthcare).**

powered by  
**SpeechMagic™**

© 2008 Nuance Communications, Inc. All rights reserved. Nuance, the Nuance logo, SpeechMagic, RadWhere, RadCube, RadPort, Veriphy, PowerScribe, Dictaphone Enterprise Express Speech System, Dictaphone EXSpeech, Dictaphone Enterprise Workstation, Smart ReWrite, and Dragon, are trademarks and/or registered trademarks of Nuance Communications, Inc., and/or its subsidiaries in the United States and/or other countries. All other trademarks are properties of their respective owners.