Managing clinical documentation

PHILIPS

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Healthcare is a dictation-intensive field. According to the American Medical Transcription Association, up to $ 12 billion are spent each year to transcribe medical dictation into medical text. Since clinical medicine has moved away from individual clinician delivery to a team-based approach, it is imperative that clinicians are able to communicate effectively with each other. Therefore, healthcare professionals can no longer rely on handwritten paper-based notes; they need information in digital form. Speech recognition automates the capture of this information and allows for near-instantaneous recording and distribution of information, essential for the delivery of high-quality care.

In addition, many countries are in the process of reforming their healthcare systems to deal with shifting demographics in the western world. Technology has become a vital component in increasing the sector's efficiency. Speech recognition reduces document creation costs and improves turn-around time, thus resulting in faster delivery of treatment and less waiting time for patients.

At Philips we are dedicated to providing healthcare professionals world-wide with industrial-grade document creation solutions, which optimize the entire document creation process. As speech is the most common and easiest means of communication, we empower technology to understand your voice. The freedom to speak will make your life simply simpler.

Talking business

Philips has been driving the dictation and speech recognition industry for over half a century, employing an entire division to develop advanced and easy-to-use technology for efficient document creation. Headquartered at the Philips Research Campus in Vienna, Austria, Philips Speech Recognition Systems benefits from the innovative potential of a global electronics giant.

Committed to always providing the highest quality products and services, Philips Speech Recognition Systems
- regularly benchmarks its level of Business Excellence according to the EFQM model
- has implemented a Quality Management System that is ISO9001 certified by the ÖQS
- continuously improves our development processes according to the Software Engineering Institute
- relies on a test team which is trained and certified based on the guidelines of the International Software Testing Qualifications Board

SpeechMagic, our speech recognition-based document creation platform, is widely integrated into vertical IT-systems and dictation applications in hospitals, practices and other healthcare organizations as well as into medical transcription platforms. With more than 8,000 installations worldwide, SpeechMagic has established itself as the document creation platform of choice for dictation- and documentation-intensive industries.

Harnessing the power of your voice

With SpeechMagic, Philips has taken a unique approach to delivering state-of-the-art technology that is perfectly adapted to the needs of professional users.

Exclusive focus on documentation-intensive industries

In-depth know-how of medical documentation gathered from powering installations in 45 countries, including the world's largest medical transcription site

One-stop shop for healthcare document creation includes speech recognition technology for many languages, consulting, integration support and statistical evaluation

Intelligent Speech Interpretation enhances and speeds up your workflow

Powerful, network-based solution for distributed installations throughout a hospital or a region

Seamless integration with standard healthcare IT systems and distribution by a network of more than **200 partners world-wide**

A global scope

Philips owns the most comprehensive language portfolio in the healthcare speech recognition industry, supporting 23 recognition languages and providing a variety of ConTexts. These specialized speech recognition vocabularies include medical terminology, grammar and statistical language models, thus ensuring that the technology fully delivers on professional requirements.

Global reach. Local service.

SpeechMagic integration partners benefit from a technology which rises to the challenges of a globalized business world. At the same time, it guarantees maximum flexibility to develop locally adapted solutions which are tailored to the specific needs of each user. With more than 200 integration partners world-wide, Philips speech recognition technology is used in more than 45 countries.

All standard healthcare IT-systems can be speech-recognition enabled by SpeechMagic™:

• Hospital Information Systems
• Electronic Medical Record Systems
• Picture Archiving and Communication Systems
• Departmental Information Systems (Radiology, Cardiology, Pathology, etc.)
• Reporting workflow applications
• Transcription platform

powered by
SpeechMagic™

Visit our section „where to buy" on www.philips.com/speechrecognition to obtain a complete list of solutions, which are "powered by SpeechMagic".

Our experience – your peace of mind

Because efficient documentation has become vital for the success of the healthcare sector, Philips is committed to listening to your needs and to delivering the solutions that best meet them – a fact which has been reflected in our company from the very beginning.
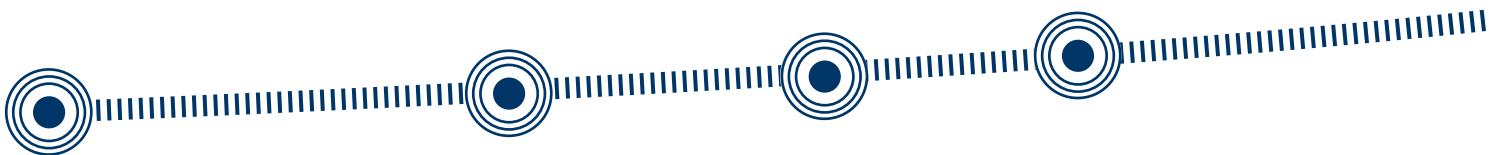
2000 Patented Synchronous Playback
Synchronous Playback technology allows the audio file to be played back simultaneously with the recognized text, enabling transcriptionists to correct speech-recognized reports significantly faster.

2002 Intelligent Speech Interpretation
Intelligent Speech Interpretation technology supports automated punctuation, hesitation filtering and formatting. SpeechMagic is now able to understand the meaning of a dictation, versus merely the actual words.

2003 From radiology to hospital-wide
The first European and US hospitals introduce speech recognition solutions on a hospital-wide level, recognizing the power of SpeechMagic.

1994 First continuous speech recognition software for radiology
Philips was first to release a client/server-based continuous speech recognition system for the radiology market.

Whether it is database-triggered medical reporting, natural language understanding or automated statistical output (e.g. for billing, wireless solutions, speaker verification or data-mining) – Philips researchers are already working on breaking new ground. Again.

2005 InterActive with Disconnected Mode
SpeechMagic InterActive is specifically tailored to facilitate self-correction of reports and increase mobility, as it allows physicians to access SpeechMagic outside of the central network (for example on a remote laptop or tablet PC).

2004 World's largest medical speech recognition site goes live
The world's leading medical transcription platform becomes speech-recognition enabled and more than 30,000 US physicians now dictate using SpeechMagic via this platform.

2006 Medical speech recognition turns industrial grade
SpeechMagic 6.1 brings speech recognition to the next level, providing the highest level of accuracy, optimized security and administration for large-scale set-ups as well as new healthcare document creation capabilities.

2005 First adequate speech recognition for Citrix
SpeechMagic enables adequate speech recognition and digital dictation in Citrix® environments, which are widely used in the healthcare sector.

Documentation challenges in healthcare

To develop suitable speech recognition technology, Philips constantly invests in understanding the changing requirements of healthcare facilities. We've seen medical speech recognition come a long way – what was originally "nice-to-have" software for technology-loving physicians has now become an indispensable working tool. With this tool, physicians and medical transcriptionists have experienced huge increases in efficiency and productivity, thus reducing report turn-around times and improving patient care – critical aspects in delivering modern healthcare.

Reduce turn-around time

The ever increasing documentation volume leads to bottle-necks in medical transcription, which result in a long report turn-around time. By automating transcription, turn-around time is reduced, allowing for quick continuation of treatment.

Increase accessibility

The seamless accessibility of reliable information by the various team members involved in delivering medical care leads to smoother and less error-prone quality of treatment. The electronic availability of information is mandatory for the successful communication in the electronic medical record.

Stabilize costs

According to the Medical Transcription Industry Association, MTIA, the US spends up to $12 billion per year to transcribe medical dictations into text. By eliminating manual transcription, hospitals free budgets and are able to improve patient care and adopt the latest healthcare technology.

Warrant security

Sensitive patient information requires the highest levels of protection to guard against system failures and ensure access to authorized persons only.

Maximize accuracy

Final reports are automatically stored in a patient's exam history. By facilitating quick and easy report creation, the professional speech recognition solution improves patient data completeness.

A star in efficient report creation

Diagnostic Imaging at the three-star Clatterbridge Center for Oncology (CCO) is at the forefront of efficient medical report creation. Instead of having reports typed out manually, SpeechMagic transforms dictation into text, enabling radiology reports to be accessed more quickly and available shortly after the report has been dictated.

powered by SpeechMagic™ – The results at CCO

- Reports are accessed faster and can be available much sooner after an examination.
- Reduced typing volumes allow secretaries to develop their roles and take on more rewarding patient-oriented tasks.
- Since dictation is easy and straightforward, radiologists can complete their reporting sessions more efficiently and can concentrate on other aspects of their job.
- SpeechMagic allowed CCO to develop a highly customised solution, which takes into account the hospital's specific reporting guidelines.

"Speech recognition didn't change my working procedure. What it did change though is report turnaround."

Dr. Keith Grant
Clinical Director of Diagnostic Imaging

"Our dedication paid off quickly, as the system now not only recognises words but interprets them according to our clinic's guidelines."

Anne-Marie Aspinall
Clinical EPR Trainer

SpeechMagic™

Philips SpeechMagic is a document creation platform which enables healthcare IT systems providers to deliver seamlessly integrated digital dictation and speech recognition capabilities to hospitals, clinics and group practices.

SpeechMagic for speech-to-text conversion
SpeechMagic turns your dictation into text and automatically processes this text to generate formatted and structured reports.

SpeechMagic for command & control
Being able to differentiate between dictation text and commands for the usage of templates, pre-defined text blocks, spelling mode and voice navigation, SpeechMagic allows you to operate your system simply by using your voice.

SpeechMagic for voice commands
Philips' exclusive speech recognition engine can also be used to control other devices - such as many functions of the Philips ultrasound system, iU22.

Working your way

SpeechMagic supports a variety of reporting scenarios which enables you to choose your preferred and most efficient document creation workflow.

Backend speech recognition
You dictate directly into your computer or on a mobile dictation device. The audio file is converted to text in the background and then transmitted to your transcriptionist for editing.

Frontend speech recognition with deferred correction
The recognized text appears directly on your screen. After finishing the dictation, the text and audio files are edited by your transcriptionist.

Frontend speech recognition with online correction
You have full control of your reports, as recognition and correction are done directly on your PC.

Intelligent job routing
By estimating the accuracy rate of a dictation, SpeechMagic automatically routes the document to the most suitable transcriptionist.

Mobile reporting
Dictation, recognition and correction are independent of the location, across a Local Area Network (LAN), Wide Area Network (WAN) or the Internet. In addition physicians can access the dictation and speech recognition system using the disconnected mode outside the central network, e.g. on a laptop or tablet PC.

Efficiency beyond accuracy

Accuracy is critical; but SpeechMagic goes far beyond merely accurate recognition of words in order to generate usable reports. The technology interprets what the speaker means. In fact, it emulates the capabilities of good medical transcriptionists.

Intelligent Speech Interpretation (ISI) technology in SpeechMagic understands natural language, thus reducing the correction effort for both the transcriptionists as well as the physicians who look after the reporting process themselves. It leaves out the 'um's and 'eh's, ignores dialogue 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.

Intelligent Speech Interpretation makes sure the transcription process requires the minimum intervention necessary to produce usable reports.

1 Section of the original dictation

Examination date is twenty sixth of January
Two thousand six
…
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 blue

Date of exam: 01/26/06
…
{MEDICATIONS}

[1] Glucotrol   5 mg b.i.d.
[2] Lotensin   20 mg p.d.
[3] Calan SR   240 mg p.d.

{OBJECTIVE}
weight 162 kg, blood pressure 150/80.

{CHEST}
clear to percussion and auscultation.

3 Final transcription according to the hospital's guidelines

Patient: David James
Patient data: 18225/dh15051977

Date of exam: 01/26/06

History of Present Illness
This is a 23-year-old patient with a fever, cough, congestion, upper respiratory type symptomatology 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 p.d.
Calan SR 240 mg p.d.

Objective
Weight 162 kg; Blood pressure 150/80 .

Chest
Clear to percussion and auscultation .

Industrial grade, future proof, simple

Because we understand how much your work depends on accurate and efficient documentation, we always strive to find ways to facilitate the creation of your documents. SpeechMagic incorporates various modules, all of which reflect our sole motivation and goal: providing you with professional technology that speeds up your medical reporting while offering high flexibility to customize it to your individual needs.

Specialized ConTexts

The recognition vocabularies, or ConTexts, are the basis for speech recognition. Every Philips ConText is based on over 100 million words taken from anonymous, original reports from the respective professional area. Philips provides the MultiMed ConText, incorporating the majority of medical specialties for hospital-wide deployments as well as departmental usage.

Continuous adaptation and learning system

SpeechMagic continuously adapts to your pronunciation, dialect and accent. You can add new words and individualize ConTexts right from the start by pre-tuning them with previous reports. These capabilities are key to ensure a future-proof, highly accurate system.

InterActive Module

SpeechMagic InterActive enables you to create reports hands-free and without the involvement of a transcriptionist – either on an optional basis, for example on weekends, or as an alternative to the backend workflow. InterActive functionalities include direct dictation into medical templates, inserting text blocks and dictating into fields. Using voice commands, you can navigate hands-free through the application, select a patient's file from a list, or format a text during and after dictation.

Citrix Extension

The SpeechMagic Citrix Extension optimizes the usability of dictation hardware and allows for the deployment of the full range of speech recognition features within a thin-client infrastructure. Numerous authors can now dictate simultaneously anywhere within the Citrix network and either delegate the dictation to a transcriptionist or correct it themselves.

Your voice makes the difference

The combination of your voice with the clinical information system makes your work easier and benefits your entire organization.

Faster report turn-around
Eliminating manual typing increases the productivity of medical transcriptionists. Depending on the set-up in your organization, productivity can be increased by more than 70%. When dictating in the frontend mode, reports are available instantly to you as well as to your patient and the referring physician.

Independent report generation
At weekends, during off-hours or from home – frontend speech recognition allows you to dictate, edit and sign-off reports yourself. By using autotext and smart-fields, your report is largely populated automatically with accurate information, which further reduces your dictation volume.

Effective communications in the EMR
With SpeechMagic integrated into your EMR solution, your dictations are automatically stored in the corresponding patient record and accessible by your colleagues for further treatment.

Improved quality of care
With accurate information available on time in the EMR, treatment can be quickly resumed, based on reliable medical reports. This reduces errors resulting from illegible, handwritten notes and reports.

Substantial cost savings
By reducing dictation volumes and increasing productivity, outsourcing volumes can be reduced and in-house transcripionists freed from monotonous typing. They can even take on more rewarding and qualified tasks in patient care or administration.

Increased IT administration efficiency
Further cost reductions are achieved by implementing a network-based system, which can be easily maintained centrally. Fail-over concepts ensure high availability and increased efficiency reduces the strain on financial and human IT resources.

Flexible workflows
Network-based speech recognition gives you a choice in dictation workflows. You can combine frontend and backend correction, in-house and outsourced transcription, office- or home-based dictation. Solutions which are powered by SpeechMagic are as flexible as you are.

Speech recognition beyond tipping-point

Numerous hospitals have been recognized for implementing speech recognition solutions powered by SpeechMagic to optimize their document creation and improve healthcare efficiency.

Technology Leadership Award

Frost & Sullivan found SpeechMagic to be the most advanced and widely-used speech recognition technology in European healthcare.

Most Innovative Speech Recognition Award

The „Most Innovative Speech Recognition Solution Award" has been bestowed upon Borgess Medical Center in the US for saving more than $200,000 USD in transcription costs within the first year of deployment.

E-Health Innovations Award

The radiology department of the Diana Princess of Wales hospital in the UK reduced report turn-around time by 74% by combining a PACS with speech recognition.

Technology Idea of the Year

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

Documentation is the life-blood of healthcare

The number of patients needing care is increasing and the services they are using are becoming more complex, which in turn requires more documentation. Documentation is the lifeblood of healthcare; without it, there is no accurate communication between the various members of a healthcare team.

Philips helps you speed up your documentation processes for better, more reliable and more efficient quality of care.

Visit www.philips.com/speechrecognition.

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