

PRESS RELEASE

ID GmbH & Co. KGaA

Terminology server soon to be market-ready

At DMEA 2019, ID is going to place the spotlight on its terminology server. Applications such as clinical context coding (ID CCC) or AMTS checks are already reducing the amount of work on hospital staff and are increasing patient safety. However, that is not all: André Sander, head of software development at ID and management board member, is convinced that terminology servers will make deep-learning algorithms, currently a much-debated topic, ready for use in the practical nursing environment.

In health IT, and not only there, people are talking about artificial intelligence (AI). Can AI take data analysis to a new level?

In the future, artificial intelligence will become an integral part of medical care. However, the success stories we hear everywhere in some cases oversimplify artificial intelligence. We cannot solve every single problem with neuronal networks and deep-learning algorithms. I do believe that AI now has the same ability as humans have to recognise patterns. As far as imaging questions are concerned, algorithms are now able to respond just as accurately or better than trained medical specialists. However, it is important to be aware of the limitations. Modern algorithms still have problems with language nuances. This applies to compound nouns, which are frequently used in German, as well as to the specific terminology used in different medical institutions, their acronyms for instance. Spelling and grammar can be a challenge, especially for non-native speakers. Anyone developing analysis tools should be aware of these limitations.

How could we solve the problems you are describing? With more computing power or with more complex neuronal networks?

Computing power is not an issue. Linguistic knowledge and content understanding are problematic. This is where terminology servers come into play. They improve the results of deep-learning algorithms and expand the range of applications. For example, a deep-learning algorithm can translate a text but cannot understand its meaning. If the translation is running on a terminology server too, then it is possible to simplify or shorten the text. Analysis tools can recognise medical concepts formulated as free text with the help of a terminology server. Thus, an 'acute myocardial infarction' can be associated with various synonyms, a particular topography, accompanying diagnoses, laboratory statistics and forms of intervention. Thanks to this information we can improve an algorithm. Hypothetically, terminology servers could offer a solution to AI's basic problem and a chance to overcome the limitations of mere pattern recognition.

How is ID working to take this to the next level?

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For instance, we are working together with a university in Austria to submit an international research project. The subject of the project is 'explainable AI', i.e. how to teach algorithms to explain their decisions. This ability will be essential for deep learning algorithms in the medical field, simply for liability reasons. Terminology servers may well play an important role here because they can help to understand interrelations.

Which role are terminology servers going to play on the stand of ID at DMEA 2019?

These solutions have been part of ID's routine for almost two decades and are employed for applying and managing terminology. This includes new terminologies as well, which are currently a much-discussed topic. We are going to pick them as a central theme in a lecture at the congress. At DMEA we will be showing our new FHIR-based Application Programming Interface (API), which makes it possible for our terminology server to communicate with all kinds of IT systems, whether in hospitals or in a mobile environment, better than with standardised methods. Ultimately, FHIR-API will make it easier to employ our terminology server in areas where it is possible to use AI.

What other key topics is ID focusing on at DMEA 2019?

This year, another key topic is going to be our clinical context coding. Its goal is to make it possible to read and comprehend medical documents using the ID LOGIK® terminology server – primarily in relation to an optimal coding of medical services. We are now able to answer many invoicing queries to the same standard as humans. The accuracy in evaluating doctor's reports, surgery reports and diagnoses is very high. It is also possible to summarise nurses notes under sub-headings, from which we can derive structured documentation for inputting data. The reverse process is interesting as well, i.e. identifying data entered in documentation. Thus, in the case of a patient with multimorbidity receiving multiple medication we can search for instances that document the treatment. This is very important from a quality assurance point of view. In many cases, it also accelerates medical inspector's requests because further enquiries are either abandoned or previously avoided.

What is the exact situation concerning clinical applications?

Our focus is in particular on safe drug treatment plans (AMTS). We are going to show it to our visitors at DMEA. We are going to show how customers can set up their own clinical documentation rules for generating medication alerts. The advantage of using a terminology server in this context is that customers can put together entire warning systems based on semantic rules. For instance, in the case of an osteoporosis patient, instead of generating a general PPI alert, the system can be adapted to certain forms of osteoporosis and various PPIs. In this way, we can differentiate between individual alerts according to the clinical relevance. Our customers can also benefit from each other. We have users who provide us with rules which we place at the disposal of other users. It is not necessary for every institution to begin building clinical expertise from zero.

About DMEA

DMEA is the successor to conhIT – Connecting Healthcare IT, and represents a

strategic evolution of that concept. It aims to mirror the entire digital supply chain including every process along the way. Step by step DMEA will expand into a platform representing every digital field of interest to all players in the healthcare system, both now and in the future. DMEA targets decision-makers in every healthcare sector – hospital managers, IT heads, doctors, nurses, healthcare policymakers and experts in science and research. As an integrated event combining a trade fair, congress, academy and a wide range of interactive formats, it gives participants the opportunity to find out about the latest digital healthcare developments and products, establish industry contacts and acquire high-level qualifications.

DMEA is held by the German Association of Healthcare IT Vendors (bvitg) and organised by Messe Berlin. DMEA is organised in cooperation with the following industry associations: the German Association of Healthcare IT Vendors (bvitg), the German Association for Medical Informatics, Biometry and Epidemiology (GMDS), the German Medical Informatics Professional Association (BVMI). The National Association of Hospital IT Managers (KH-IT) and the Chief Information Officers of University Hospitals (CIO-UK) provide contributions on the subject matter. The three-day event takes place annually on the Berlin Exhibition Grounds.

More information on products, topics, events and industry trends can be found by visiting the health IT homepage of bvitg Service GmbH, a subsidiary of the German Association of Healthcare IT Vendors (bvitg).
www.health-it-portal.de

This press release can also be found on the internet: www.dmea.eu

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