Unraveling the Quandary of Access Layer versus Storage Layer Security

Dr. Jans Aasman was quoted in this article about how AllegroGraph's Triple Attributes provide Storage Layer Security.

With horizontal standards such as the General Data Protection Regulation (GDPR) and vertical mandates like the Fair Credit Reporting Act increasing in scope and number, information security is impacted by regulatory compliance more than ever.

Organizations frequently decide between concentrating protection at the access layer via role-based security filtering, or at the storage layer with methods like encryption, masking, and tokenization.

The argument is that the former underpins data governance policy and regulatory compliance by restricting data access according to department or organizational role. However, the latter's perceived as providing more granular security implemented at the data layer.

*A hybrid of access based security and security at the data layer—implemented by triple attributes—can counteract the weakness of each approach with the other's strength, resulting in information security that **Franz** CEO Jans Aasman characterized as "fine-grained and flexible enough" for any regulatory requirements or security model.*

*The security provided by this semantic technology is considerably enhanced by the addition of **key-value pairs** as JSON objects, which can be arbitrarily assigned to triples within databases. These key-value pairs provide a second security mechanism "embedded in the storage, so you cannot cheat," Aasman remarked.*

When implementing HIPPA standards with triple attributes, "even if you're a doctor, you can only see a patient record if all your other attributes are okay," Aasman mentioned.

"We're talking about a very flexible mechanism where we can add any combination of key-value pairs to any triples, and have a very flexible language to specify how to use that to create flexible security models," Aasman said.

Read the full article at InfoSecurity.

Going Beyond Blockchain with Directed Acyclic Graphs (DAG)

Crypto Slate – January 2019

by Dr. Jans Aasman, CEO, Franz Inc.

If organizations could only augment blockchain's strengths—its immutability, security, and decentralization—while addressing its latency and scalability issues, it could become the

vaunted enterprise tool it was initially intended. That day will soon come courtesy of Directed Acyclic Graphs (DAGs).

Blockchain's premise is straightforward, utilitarian, and more lucrative than that of any other new technology to recently emerge. This distributed ledger system promises near real-time updates of transactions between remote parties for trustworthy, impenetrable peer-to-peer networks, eliminating the need (and expense) of middlemen.

Read the full article at Crypto Slate.

The Semantic Knowledge Graph: A Tribute

Dataversity — January 2019

Noam Chomsky, the philosopher, cognitive scientist, historian, social critic, and father of modern linguistics, has authored over 1,000 articles and 130 books. The 89-year-old intellectual also has written films and appeared in many documentaries. The substantial work he has done in linguistics and politics has earned him the title of "most cited living author."

Now his work is the subject of the Noam Chomsky Knowledge Graph, the first Semantic Knowledge Graph for a public figure. "Doing a Semantic Project of all he has written or said is a fabulous tribute to a man who has made a big contribution to

the study of language and its meaning," says Fred Davis, Executive Director of the Chomsky Knowledge Graph project.

Dr. Jans Aasman was quoted:

"A good thing about Semantic Technology is that it's easier to add new information than if you have a highly structured database. That's because of the way things are stored in triples — where you have a subject, predicate, and object relationship—so you can bring in new information that instantly connects to other information," says Dr. Jans Aasman, CEO of Franz.

Read the full article at Dataversity

Semantic Web and Semantic Technology Trends in 2019

Dataversity — January 2019

What to expect of Semantic Web and other Semantic Technologies in 2019? Quite a bit. DATAVERSITY engaged with leaders in the space to get their thoughts on how Semantic Technologies will have an impact on multiple areas.

Dr. Jans Aasman, CEO of Franz Inc. was quoted several times in the article:

Among the semantic-driven AI ventures next year will be those that relate to the healthcare space, says Dr. Jans Aasman, CEO

of Semantic Web technology company Franz, Inc:

"In the last two years some of the technologies were starting to get used in production," he says. "In 2019 we will see a ramp-up of the number of AI applications that will help save lives by providing early warning signs for impending diseases. Some diseases will be predicted years in advance by using genetic patient data to understand future biological issues, like the likelihood of cancerous mutations — and start preventive therapies before the disease takes hold."

If that's not enough, how about digital immortality via AI Knowledge Graphs, where an interactive voice system will bring public figures in contact with anyone in the real world? "We'll see the first examples of Digital Immortality in 2019 in the form of AI Digital Personas for public figures," says Aasman, whose company is a partner in the Noam Chomsky Knowledge Graph:

"The combination of Artificial Intelligence and Semantic Knowledge Graphs will be used to transform the works of scientists, technologists, politicians, and scholars like Noam Chomsky into an interactive response system that uses the person's actual voice to answer questions," he comments.

"AI Digital Personas will dynamically link information from various sources — such as books, research papers, notes and media interviews — and turn the disparate information into a knowledge system that people can interact with digitally." These AI Digital Personas could also be used while the person is still alive to broaden the accessibility of their expertise.

On the point of the future of graph visualization apps, Aasman notes that:

"Most graph visualization applications show network diagrams in only two dimensions, but it is unnatural to manipulate graphs on a flat computer screen in 2D. Modern R virtual reality will add at least two dimensions to graph visualization, which will create a more natural way to manipulate complex graphs by incorporating more depth and temporal unfolding to understand information within a time perspective."

Read the full article at Dataversity.

Solving Knowledge Graph Data Prep with Standards

Dataversity — December 2018

There's a general consensus throughout the data ecosystem that Data Preparation is the most substantial barrier to capitalizing on data-driven processes. Whether organizations are embarking on Data Science initiatives or simply feeding any assortment of enterprise applications, the cleansing, classifying, mapping, modeling, transforming, and integrating of data is the most time honored (and time consuming) aspect of this process.

Approximately 80 percent of the work of data scientists is mired in Data Preparation, leaving roughly 20 percent of their jobs to actually exploiting data. Moreover, the contemporary focus on external sources, Big Data, social and mobile technologies has exploded the presence of semi-structured and unstructured data, which accounts for nearly 80 percent of

today's data and further slows the preparation processes.

Read the full article at Dataversity.

AllegroGraph named to 2019 Trend-Setting Products

Database Trends and Applications — December 2018

You can call it the new oil, or even the new electricity, but however it is described, it's clear that data is now recognized as an essential fuel flowing through organizations and enabling never before seen opportunities. However, data cannot simply be collected; it must be handled with care in order to fulfill the promise of faster, smarter decision making.

More than ever, it is critical to have the right tools for the job. Leading IT vendors are coming forward to help customers address the data-driven possibilities by improving self-service access, real-time insights, governance and security, collaboration, high availability, and more.

To help showcase these innovative products and services each year, Database Trends and Applications magazine looks for offerings that promise to help organizations derive greater benefit from their data, make decisions faster, and work smarter and more securely.

This year our list includes newer approaches leveraging

artificial intelligence, machine learning, and automation as well as products in more established categories such as relational and NoSQL database management, MultiValue, performance management, analytics, and data governance.

Read the AllegroGraph Spotlight

Knowledge Graphs — The path to true AI

Published in SD Times — December, 2018

Knowledge is the foundation of intelligence— whether artificial intelligence or conventional human intellect. The understanding implicit in intelligence, its application towards business problems or personal ones, requires knowledge of these problems (and potential solutions) to effectively

overcome them.

The knowledge underpinning AI has traditionally come from two distinct methods: statistical reasoning, or machine learning, and symbolic reasoning based on rules and logic. The former approach learns by correlating inputs with outputs for increasingly progressive pattern identification; the latter approach uses expert, human-crafted rules to apply to particular real-world domains.

Read the full article at SD Times.

What is the most interesting use of a graph database you ever seen? PWC responds.

From a Quora post by Alan Morrison — Sr. Research Fellow at PricewaterhouseCoopers — November 2018

The most interesting use is the most powerful: standard RDF graphs for large-scale knowledge graph integration.

*From my notes on a talk Parsa Mirhaji of Montefiore Health System gave in 2017. **Montefiore uses Franz AllegroGraph, a distributed RDF graph database.** He modeled a core patient-centric hospital knowledge need using a simple standard ontology with a 1,000 or so concepts total.*

That model integrated data from lots of different kinds of heterogeneous sources so that doctors could query the knowledge graph from tablets or phones at a patient's bedside and get contextualized, patient-specific answers to questions for diagnostic purposes.

Fast forward to 2018, and nine out of ten of the most value-creating companies in the world are using standard knowledge graphs in a comparable fashion, either as a base for multi-domain intelligent assistants a la Siri or Alibot or Alexa, or to integrate and contextualize business domains cross-enterprise, or both. The method is preparatory to what John Launchbury of DARPA described as the Third Wave of AI………….
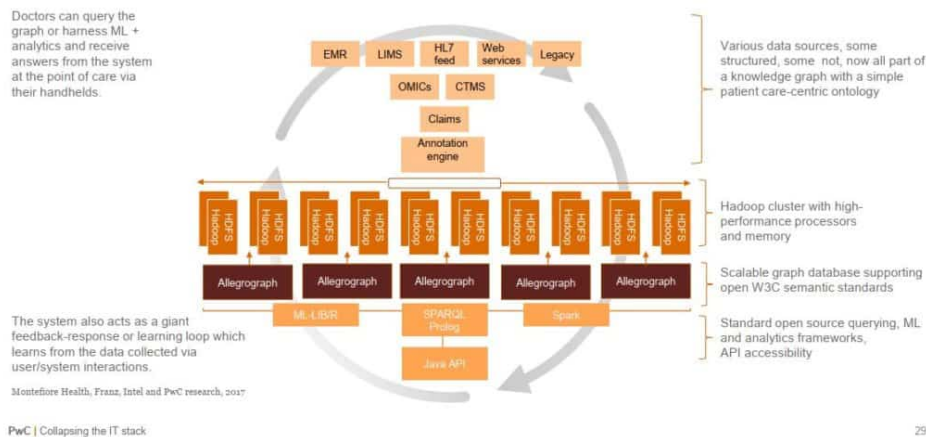
Read the full article over at Quora

.

2019 Trends in Data Governance: The Model Governance Question

From an AI Business Article by Jelani Harper — November 2018

The propagation of the enterprise's ability to capitalize on

data-driven processes—to effectively reap data's yield as an organizational asset, much like any other—hinges on data governance, which arguably underpins the foundation of data management itself.

There are numerous trends impacting that foundation, many of which have always had, and will continue to have, relevance as 2019 looms. Questions of regulatory compliance, data lineage, metadata management, and even data governance will all play crucial roles.

Franz's CEO, Dr. Jans Aasman was quoted:

Still, as Aasman denoted, "It's extremely complicated to make fair [machine learning] models with all the context around them." Both rules and human supervision of models can furnish a fair amount of context for them, serving as starting points for their consistent governance.

Read the full article at AI Business.

AI Requires More Than Machine Learning

From Forbes Technology Council – October 2018

This article discusses the facets of machine learning and AI:

Lauded primarily for its automation and decision support, machine learning is undoubtedly a vital component of artificial intelligence. However, a small but growing number of thought leaders throughout the industry are acknowledging that the breadth of AI's upper cognitive capabilities

involves more *than just machine learning.*

Machine learning is all about sophisticated pattern recognition. It's virtually unsurpassable at determining relevant, predictive outputs from a series of data-driven inputs. Nevertheless, there is a plethora of everyday, practical business problems that cannot be solved with input/output reasoning alone. The problems also require the multistep, symbolic reasoning of rules-based systems.

Whereas machine learning is rooted in a statistical approach, symbolic reasoning is predicated on the symbolic representation of a problem usually rooted in a knowledge base. Most rules-based systems involve multistep reasoning, including those powered by coding languages such as Prolog.

Read the full article over at Forbes

.