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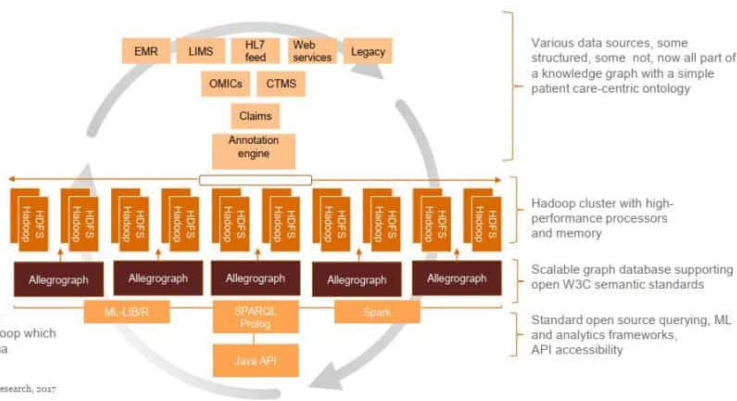
Fast forward to 2018, and nine out of ten of the most value-creating companies in the world are using standard knowledge graphs in a comparable fashion, either as a base for multi-domain intelligent assistants a la Siri or Alibot or Alexa, or to integrate and contextualize business domains cross-enterprise,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

Montefiore's semantic data lake

Doctors can query the graph or harness ML + analytics and receive answers from the system at the point of care via their handhelds.

Various data sources, some structured, some not, now all part of a knowledge graph with a simple patient care-centric ontology

EMR LIMS HL7 feed Web services Legacy
OMICs CTMS
Claims
Annotation engine

Hadoop cluster with high-performance processors and memory

HDFS Hadoop

Allegrograph

Scalable graph database supporting open W3C semantic standards

The system also acts as a giant feedback-response or learning loop which learns from the data collected via user/system interactions.

ML-LIB/R SPARQL Prolog Spark

Standard open source querying, ML and analytics frameworks, API accessibility

Java API

Montefiore Health, Franz, Intel and PwC research, 2017

Read the full article over at Quora

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