

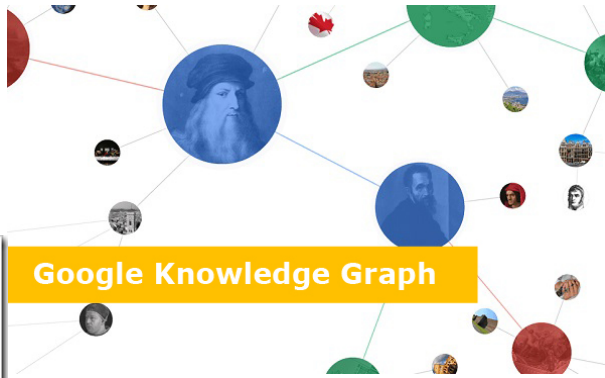
# Capsenta

The Beautiful Data Company™

## TBA

Juan Sequeda, PhD

Founder



Google Knowledge Graph



Solutions Ir

OCTOBER 23, 2017

Thomson Reuters Launches first of its kind Knowledge Graph Feed allowing Financial Services customers to accelerate their AI and Digital Strategies

Graph network of 2 billion relationships brings to life a comprehensive view of the financial ecosystem so that users can uncover new, unexpected or difficult to find insights from connected data.

UBER Engineering

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Alexa Skills Kit Alexa Voice Service Connected Devices Alexa Programs Docs Alexa

### New Way to Annotate Training Data Should Enable More Sophisticated Interactions



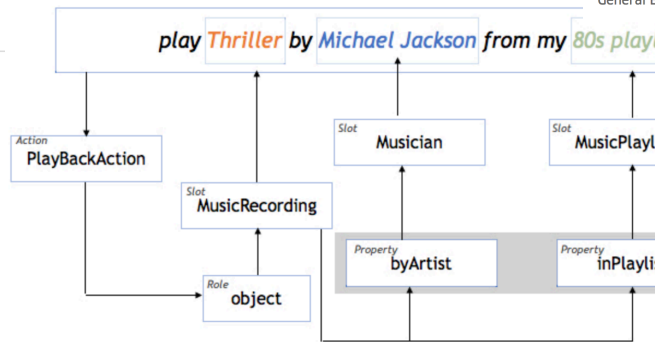
June 01, 2018 Lambert Mathias

Alexa Alexa Research Alexa Science

- CATEGORIES
- Architecture
- AI
- Uber Data
- Open Source
- Mobile
- General Engineering

## Food Discovery with Uber Eats: Building a Query Understanding Engine

By Ferras Hamad, Isaac Liu and Xian Xing Zhang June 6, 2018



Graph representation in Alexa Meaning Representation Language

### Building a food knowledge graph

The classic approach of query understanding through text matching with natural language processing (NLP) works if the eater intent is clear and specific. But where the intent is ambiguous, such as the scenarios outlined above, applying classic NLP approaches alone is not sufficient. Of the alternative approaches we can take, most require establishing an intelligent understanding of the entities within the food domain by building a knowledge base. Many companies spend considerable time building up knowledge bases across several domains, with Google's Knowledge Vault being one of the most well-known.

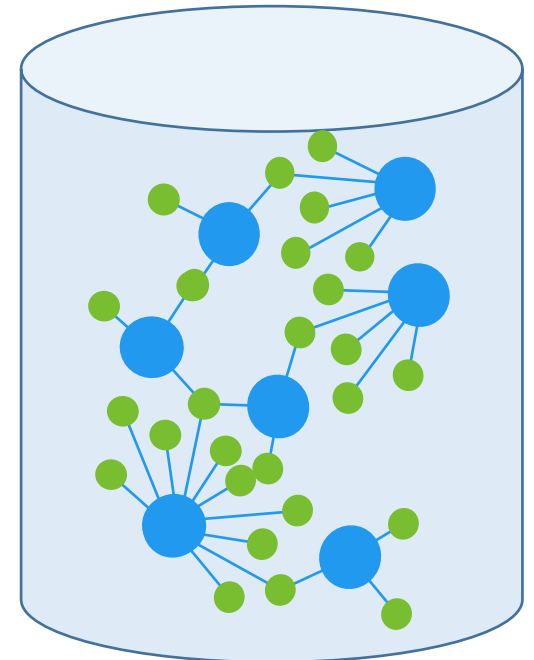
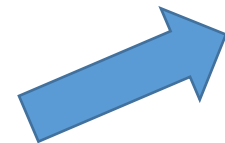
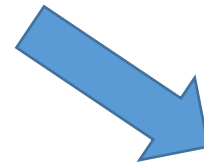
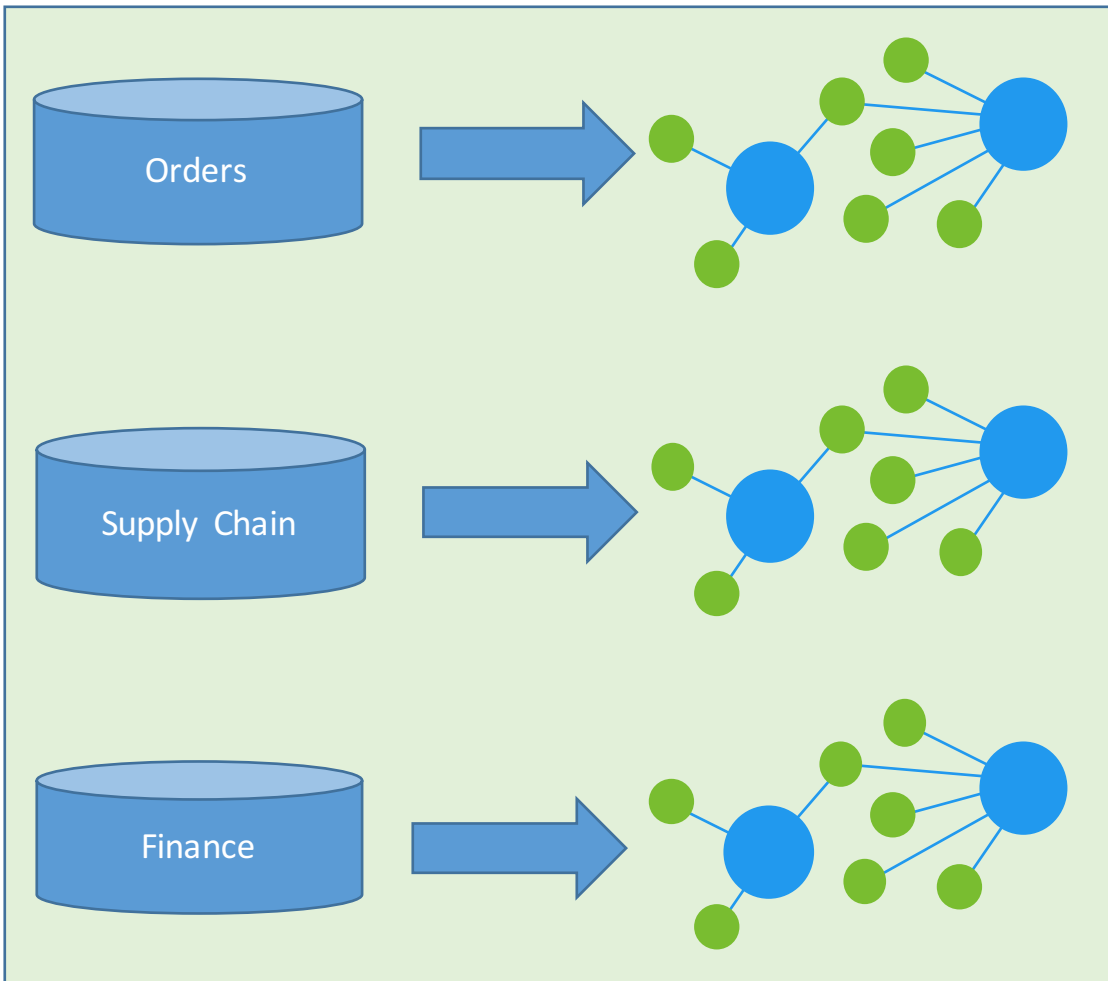
**SOURCE  
DATABASES**



**KNOWLEDGE GRAPH**

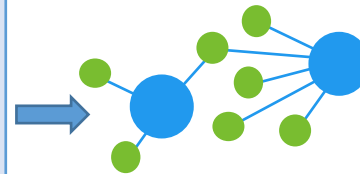
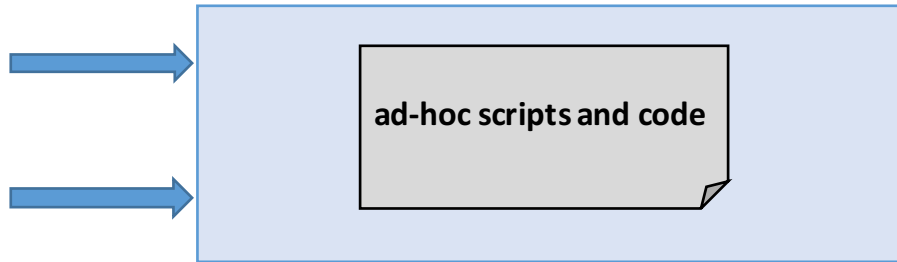


**ENTERPRISE  
KNOWLEDGE GRAPH**



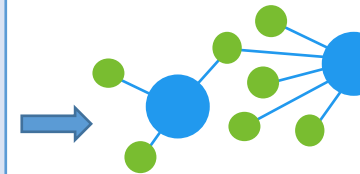
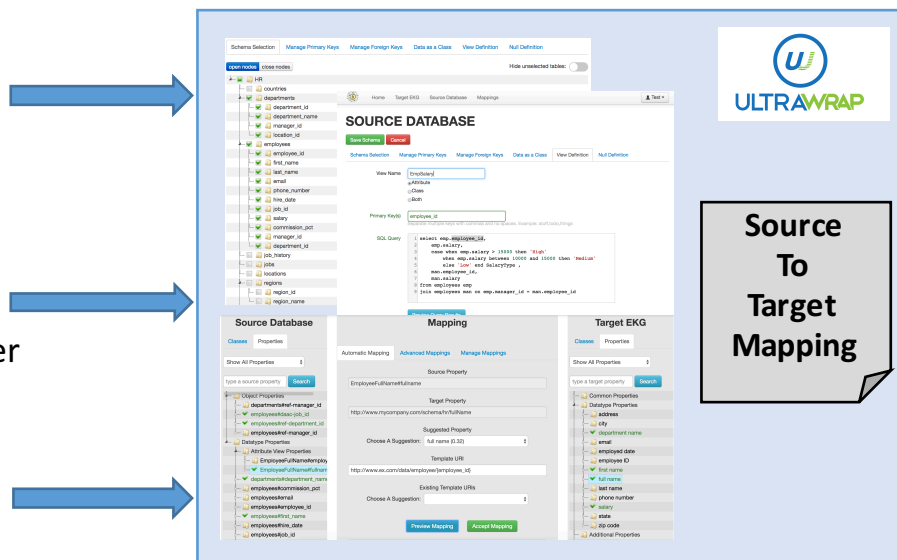
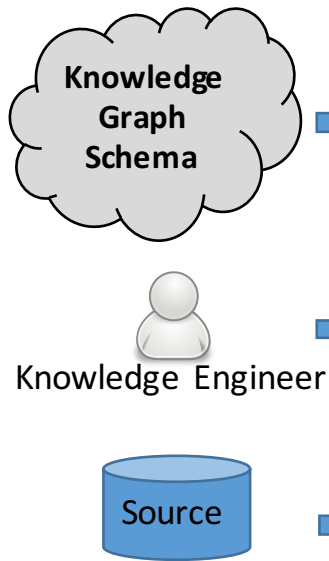
ETL to Graph Database: AWS Neptune, Neo4j, etc.  
NoETL via Graph Virtualization: Capsenta Ultrawrap

## DATA DRIVEN



- Quick Prototype
- Hard to manage
- Messy if it goes into production at enterprise-scale

## SCHEMA DRIVEN



- Enterprise-scale
- Data Governance
- Declarative Mappings

# How to design knowledge graph schemas?



<https://protege.stanford.edu/>

- ▼ DSE advanced functionality
  - > DSE Analytics
  - > DSE Search
  - ▼ DSE Graph
    - About DSE Graph
    - DSE Graph Terminology
    - DSE Graph QuickStart

## Creating graph schema

Creating a **data model** for a graph database is the critical first step towards creating a schema. Once the data model is designed and a graph is created, defining the schema for the vertices and edges and their properties is the next step in creating a graph database. Gremlin-Groovy is the language used to create scripts; Gremlin-Groovy is packaged with the Apache TinkerPop engine, and can be used with either DataStax Studio or the Gremlin console (`dse gremlin-console`) installed with DataStax Enterprise.

Graph schema can be created with `create()` or added to existing schema with `add()`.

<https://docs.datastax.com/en/dse/6.0/dse-dev/datastax-enterprise/graph/using/createSchema.html>

[openCypher / openCypher](#)

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Code Issues 55 Pull requests 23 Projects 0 Insights

## CIR-2018-307 "Ascii Art" graph schema #307

Open alastai opened this issue on Mar 14 · 0 comments



alastai commented on Mar 14 · edited -

Recent work on SQL graph data source integration, and contributions to ISO SQL Property Graph Query discussions, have led to the evolution of a simple, visual way of representing the structure and typed property sets of labels in a closed-world graph schema. This approach is concise, and renders the pictures that are used in Chen Entity-Relationship diagrams into ASCII Art, in the style of Cypher.

Please find a file attached with a brief description.  
[openCypher CIR ASCII Art ERD Schema.pdf](#)

alastai changed the title from CIR-2018-303 "Ascii Art" graph schema to CIR-2018-307 "Ascii Art" graph schema on Mar 14

Mats-SX added the CIR label on Mar 14

Assignees

No one assigned

Labels

CIR

Projects

None yet

Milestone

No milestone

2 participants

<https://github.com/opencypher/opencypher/issues/307>

# The Graph Industry lacks tools to design Knowledge Graphs

Similar to modeling tools for the relational database industry

# First Public Announcement

**GRAFO**

Plans & Pricing

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# DESIGN KNOWLEDGE GRAPHS, SIMPLY

Grafo is visual, collaborative, and real-time

<https://gra.fo/>

# What's next

- First and foremost ... Work with the community!
  - Let us know what you want: [support@gra.fo](mailto:support@gra.fo)
- ...
- And much more...!