neo4j

> *You may also like is a deceptively simple phrase: In offering tailored suggestions, businesses maximize value by providing highly targeted, real-time product recommendations to their online consumers.*

Who Needs Recommendation Engines?

- Consumer web companies, the majority of whose revenue comes from their online channel
- Companies investing heavily in their online channel to compete with consumer web companies

Personalization Challenges Checklist

- Performance and content management scalability
- Technology that can't connect siloed systems
- Lack of a 360-view of customers across various channels

Executive Summary

Real-Time Recommendations

The Challenge: Improve How Shoppers Search for What They Seek

When shopping on eBay, the typical search box experience regularly falls short in understanding and remembering what a shopper is truly seeking to find.

As RJ Pitman, SVP & Chief Product Officer, explains, existing product searches and recommendation engines generally aren't able to provide or infer contextual information within a shopping request.

Pittman considers the information implied with the phrase: "My wife and I are going camping in Lake Tahoe next week, we need a tent."

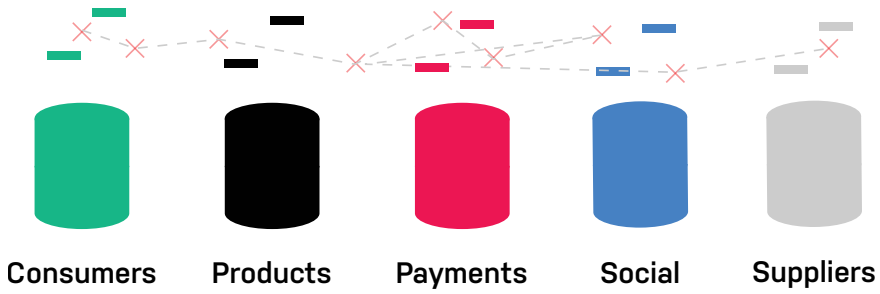
While most search engines react to the word "tent," additional context regarding location, temperatures, tent size, scenery, etc. isn't taken into account. But these specifics are what actually inform many buying decisions.

A new solution was needed: a real-time recommendation engine that understands and learns from the contextual language supplied by the shopper and quickly zeroes in on specific products.

Data Stored in Relational Databases and Other Silos

Without a graph database, recommendation engines have one or more of these problems:

- They resort to batch processing to pre-compute recommendations so they are available in real time
- They traverse no more than three levels of depth to deliver real-time performance
- They can't flexibly accommodate new data sources



Neo4j Graph Data Platform Benefits

Neo4j Graph Database
Deliver real-time user personalization with the power of a native graph database that maintains rapid performance even as your dataset grows.

Cypher Query Language
Rewrite your 100-line SQL queries with just **seven** lines of Cypher (like eBay did) and increase efficiency while reducing tuning and debugging times.

Data Integration Tools
Don't rip and replace your current data stores: Integrate them seamlessly with Neo4j for recommendations that draw in data from every source and silo.

Data Discovery & Visualization
Easily communicate and visualize the efficiency of your recommender systems to non-technical peers using Neo4j Bloom.

Graph Analytics
Test and optimize your recommendation algorithms with powerful, offline graph analytics and feed those insights seamlessly into your operational database.

Questions about Neo4j? Contact us around the globe:

info@neo4j.com
neo4j.com/contact-us
neo4j.com

The Solution: Graphs Tap Into Holy Grail of Conversational Commerce

"Our goal is to bring the best of eBay to your fingertips, highlighting the best of our inventory, with a focus on fixed-price items, fast and free shipping, and deals," said Pittman.

eBay chose Neo4j as the native graph database that holds the probabilistic models that aid in understanding in the conversational shopping scenario.

A graph database is the perfect solution, providing a knowledge graph coupled with natural language understanding (NLU) and artificial intelligence to store, remember, and learn from past interactions with shoppers.

The results? A chatbot with internet scale, a high degree of resiliency and availability, and predictable responses in milliseconds. Read the rest of the story.

Building Real-Time Recommendation Engines with Neo4j
Neo4j is a highly scalable, native graph database that delivers real-time insights into data relationships. Neo4j naturally stores, manages, and analyzes data within the context of connections.

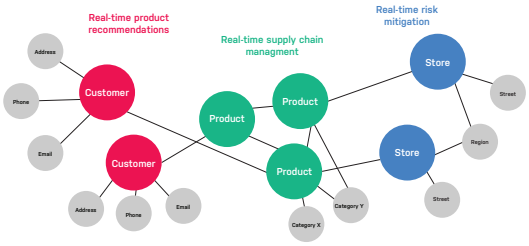
With Neo4j, you can continually improve recommendations of all types while accommodating new data sources and types – all without a rewrite of your data model.

Built-in high availability features ensure user data is always available to your mission-critical recommendation engine. Companies in all industries integrate data into a Neo4j cluster, and model and query the data connection they need to craft advanced recommendation algorithms to power the next generation of applications and services.

High Value Gained From Neo4j Graph Database

- Increased Revenue: Recommendations done right directly impact revenues
- Higher Engagement: Improved personalization and content recommendations lead to higher engagement
- Risk Mitigation: Recommendation-based tools are foundational to modern fraud detection and asset management

Learn more about using Neo4j to deliver real-time recommendations.



Neo4j is the world's leading graph data platform. We help organizations – including Comcast, ICIJ, NASA, UBS, and Volvo Ca Neo4j is the world's leading graph data platform. We help organizations – including Comcast, ICIJ, NASA, UBS, and Volvo Cars – capture the rich context of the real world that exists in their data to solve challenges of any size and scale. Our customers transform their industries by curbing financial fraud and cybercrime, optimizing global networks, accelerating breakthrough research, and providing better recommendations. Neo4j delivers real-time transaction processing, advanced AI/ML, intuitive data visualization, and more. Find us at neo4j.com and follow us at @Neo4j.