Building A Customer Journey using Domain Driven Design and GraphQL

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Agenda

- Resources and Introduction
- Digital Customer Journeys
- Understanding the Ordering Journey
- Modeling the Journey Domain using Domain Driven Design
- Creating the GraphQL Schema
- The Ordering Journey in Action
- Dealing with Changes in the Journey
Resources

- Schemas and other artifacts are available at [https://dgraph.io/blog/post/ddd-with-graphql/](https://dgraph.io/blog/post/ddd-with-graphql/)
- Get Started With Dgraph and GraphQL: [https://dgraph.io/docs/graphql/quick-start/](https://dgraph.io/docs/graphql/quick-start/)
- Get Started With Dgraph Cloud: [https://dgraph.io/docs/cloud/cloud-quick-start/](https://dgraph.io/docs/cloud/cloud-quick-start/)
A Brief Introduction to Dgraph

What is Dgraph?
Dgraph is a native GraphQL graph database that is built to be distributed. This makes it highly scalable, performant, and blazingly fast – even for complex queries over terabytes of data.

Native GraphQL
Dgraph is the only native GraphQL database on the market. Zero learning curve. Built for modern developers.

Blazing fast
Millisecond response speeds on complex, 5+ degree queries at over 15000/s QPS? No problem!

Flexible schema
Save weeks of work when changing your schema on the fly with zero downtime. Get faster iteration and innovation.

Highly scalable
Grow from megabytes to terabytes of data without worrying about database crashes or collapse of functionality.

Superior performance
Get fast queries and rapid uploads without needing a mountain of RAM that costs a fortune.

Open source
The #1 graph database on GitHub, Dgraph is freely available with Apache 2.0 license. The only open source GraphDB that brings you horizontal scalability and performance.
Digital Customer Journeys

The modern customer expects **nuanced digital** journeys. For example:

- Order via smart devices
- Leverage location for delivery
- Self service options for payments and returns

What does it take to **build** these journeys?

- Iterative, Feedback driven development
- Constant refactoring, especially around data

What are the **challenges** faced by developers?

- Time taken to continuously update data model
- Refactoring data services due to changes in data model
- Manage the bindings between processes and data

These ordering journeys are characterized by a reliance on a mesh of API-driven apps. JSON and GraphQL are popular options for building these APIs and apps.

We will explore **modeling techniques** using GraphQL and Dgraph that support these rapid iteration needs.
Understanding the Ordering Journey

The Ordering Process has the following 4 steps:

- Submit
- Acknowledge
- Shipped
- Invoiced

The important entities in the domain are:

- Customer
- Product
- The Order and associated Process
Designing the Customer Journey using DDD

Focus area is the Ordering journey, and is expected to evolve rapidly with market demands a.k.a our bounded context

Dependencies and interfaces with our domain, a.k.a. the context map

Our ubiquitous language, i.e. the objects, like "Item" or "Order", or "Shipping", that need consistent interpretation and operations
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Add the Business Process Context

Parts of the Ordering Journey:
- Type: SubmitOrder
- Type: AcknowledgeOrder
- Type: ShipOrder
- Type: InvoiceOrder
- Type: Add more steps as needed

Future Extensions go here

Interface:
- OrderJourneyElement
A peek into the GraphQL API

```graphql
query MyQuery {
  queryOrderProcess {
    processStep {
      ... on AcknowledgeOrder {
        id
        acknowledgedOn
      }
    }
  }
}
```