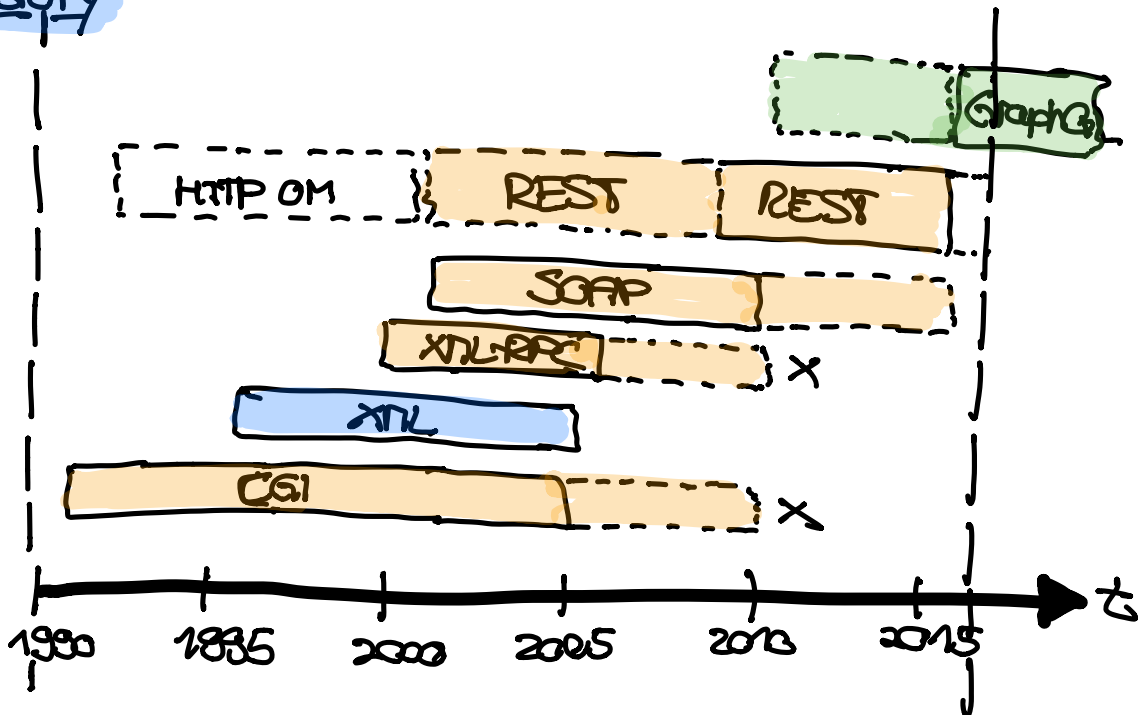# TechINSIGHT: GraphQL

(2016-10-28)

Agenda:
1. Motivation: Vote App (Bsp.)
2. Introduction
3. Tutorial: Hello World → Full Server
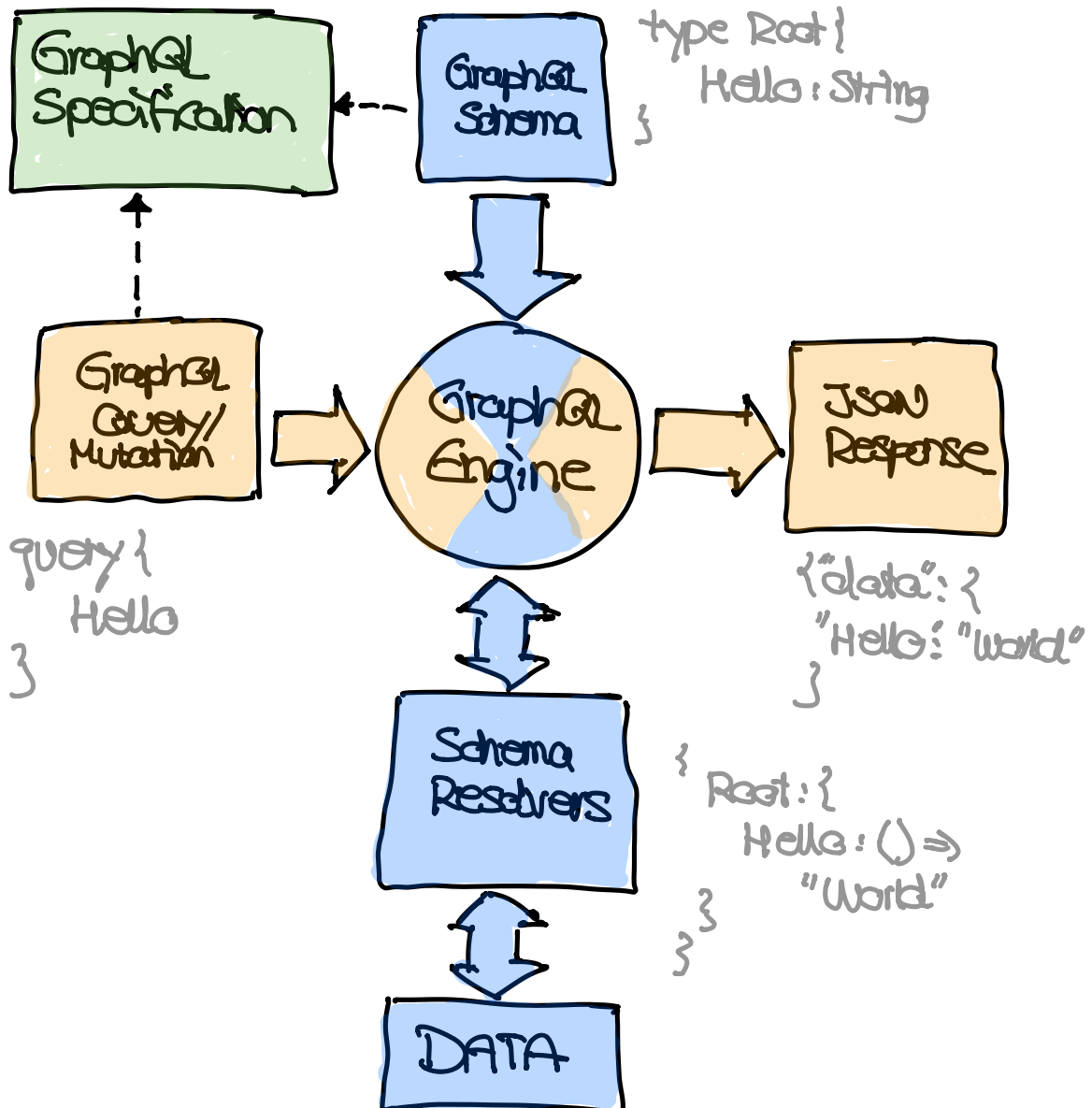4. GraphQL Community & Ecosystem

History

REST vs. Business Information Systems (BIS):

- Client-Server ✓
- State-Less ✗
- Caching ✗
- Adressability of Resources ✓
- Distinct Representations ✗
- Self-Documentation ✓
- HATEOAS ✗
- Code-on-Demand ✗
- Layer-Architecture ✓

Zusätzlich zu bedenken:

- N entities $\times$ 4 crud operations
- $+$ K aggregations/projections
- $+$ L domain operations
- $= N \times 4 + K + L$ REST endpoints !? WTF ?!

Architektur GraphQL

GraphQL Specification

GraphQL Schema

type Root {
Hello : String
}

GraphQL Query/Mutation

query {
Hello
}

GraphQL Engine

JSON Response

{"data": {
"Hello": "World"
}

Schema Resolvers

{ Root : {
Hello : () =>
"World"
}
}

DATA

GraphQL Query:

```
...
[foo:] bar [(arg: value[, ...])] {
    [quux:] baz [(arg: value[, ...])] { ... }
    ...
}]
...
```

Use-Cases:

```
Person (id: 42) {
    name
    update (email: "foo@example.com") { id }
}
```

Vote App Architecture