GraphQL

* Is new API standard that was invented & open sourced by Facebook
* Enables declarative data fetching
  + Allows API to specify exactly which data it needs
* GraphQL server exposes single endpoint and responds with exactly the data it needs

Why GraphQL

* Increased mobile usage creates need for efficient data loading
  + Low powered devices, sloppy network were the initial reasons graphQL was developed by Facebook
* Variety of different frontend frameworks and platforms on the client-side
* Fast development speed & expectation for rapid feature development

GraphQL is not only for React Developers

* Facebook uses GraphQL since 2012 in their native mobile apps
* GraphQL can be used with any programming language and framework
* GraphQL is used by other big companies such as Coursera yelp and twitter

GraphQL vs REST

* Great idea in REST: stateless servers and & structured access to resources
* REST is a strict specification
* Rapidly changing requirements on client-side don’t go well with REST

**Key: GraphQL was developed to cope with the need for more flexibility and efficiency in client server communication**

Example: Blogging App with REST

Graphical user interface, application, PowerPoint

Description automatically generated

Graphical user interface

Description automatically generated with low confidence

Traditional REST

* API endpoint ‘**/users/<id>**’ only needs **id** and **name**
  + Adding **Address** and **birthday** puts extra strain on user’s data plan
* We are actually downloading data that we don’t want to display
* To be conservative on usage 🡪 you need to refine API for that specific purpose
  + Not a good idea when the app needs quick iteration

GraphQL

Graphical user interface, text, application

Description automatically generated

Text

Description automatically generated

* Allows to fetch only needed data 🡪 saving data on user