THIS SESSION WILL BE RECORDED AND AVAILABLE ON DEMAND

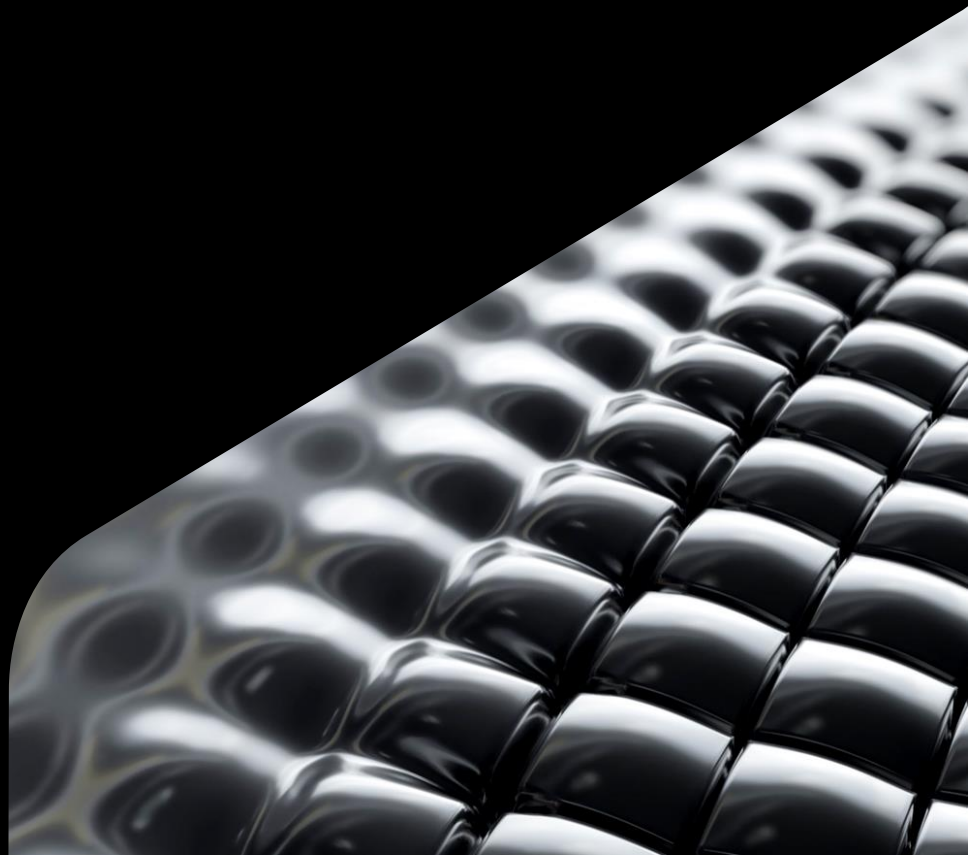
AUTODESK
Platform Services

AUTODESK
Platform Services

APS Online Training

Data Models

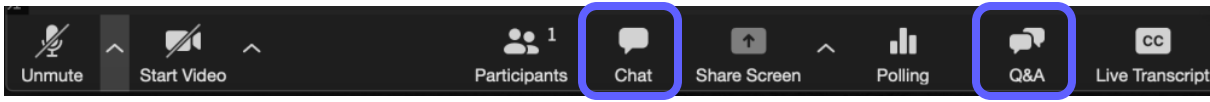
Presenter Name
Developer Advocate | @socialmedia



Recording in progress

Event format

- 2 days
  - Each day dedicated to a specific Autodesk Data Model
  - Webinars for EMEA and AMER time zones
- During the webinar
  - We code
  - You follow our steps
  - You ask questions
  - We help



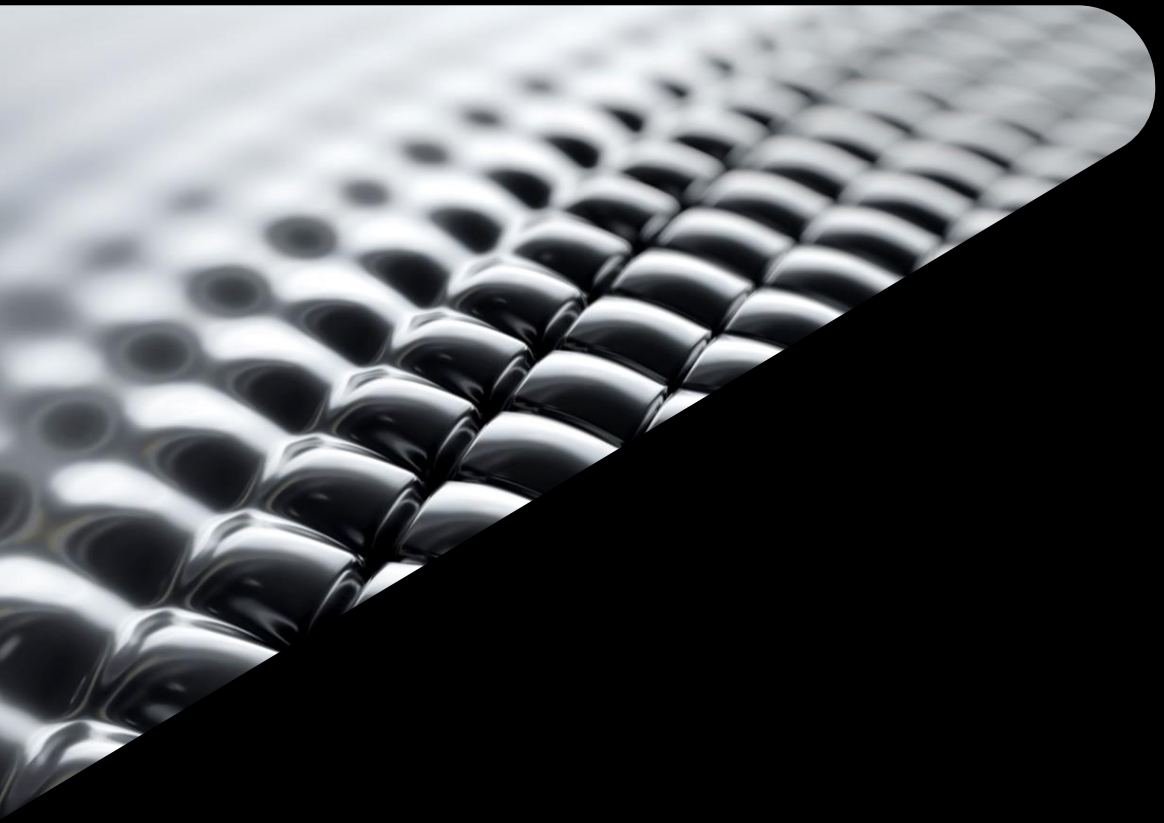
Note: you will find all the recordings here (after the webinars)
events.autodesk.com/flow/autodesk/73603/mainevent/page/sessioncatalog

Recording in progress

Schedule for the week

Tuesday July 16	Wednesday July 17
MFG Data Model	**AEC Data Model**

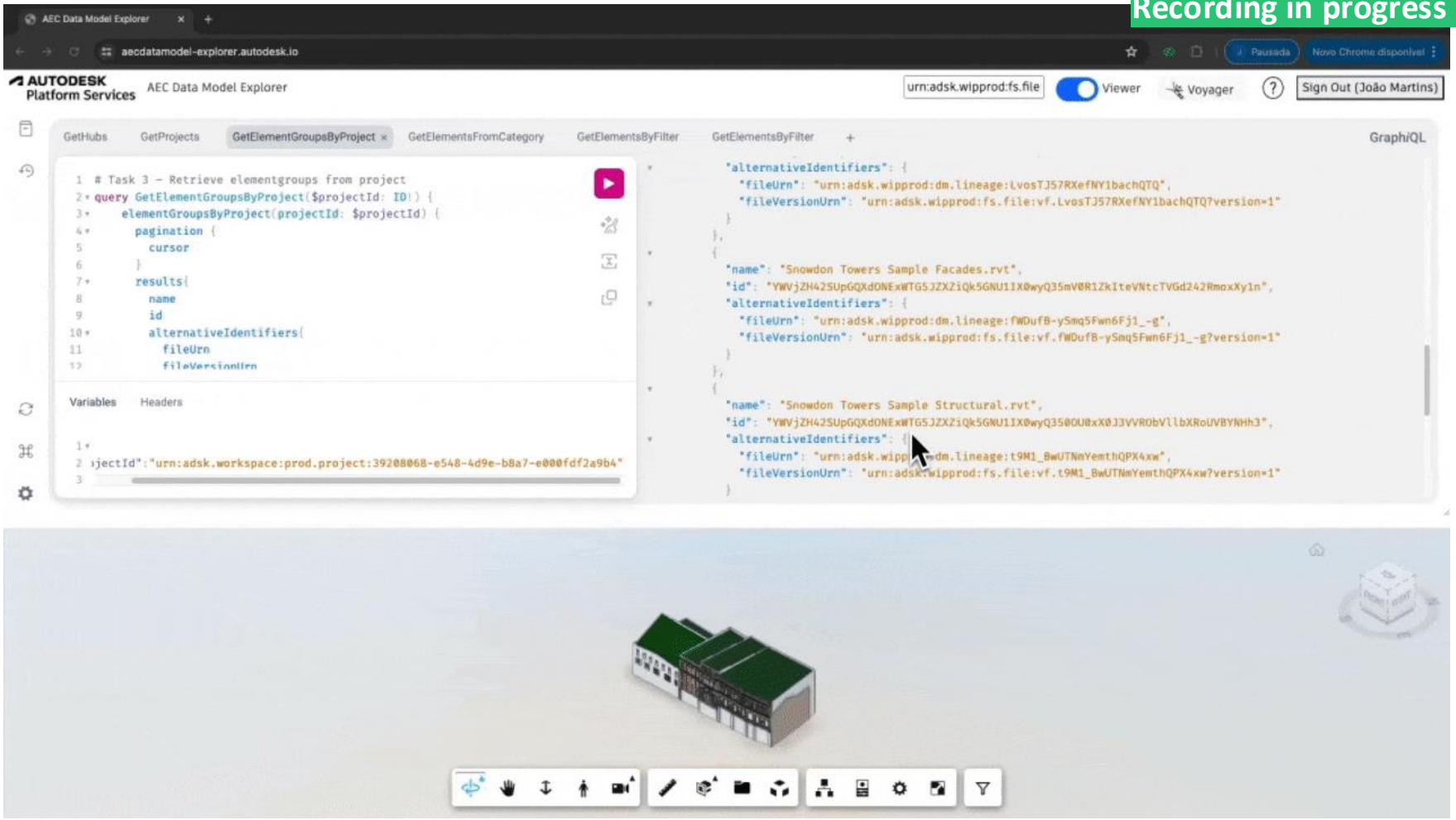
Recording in progress



Day 2

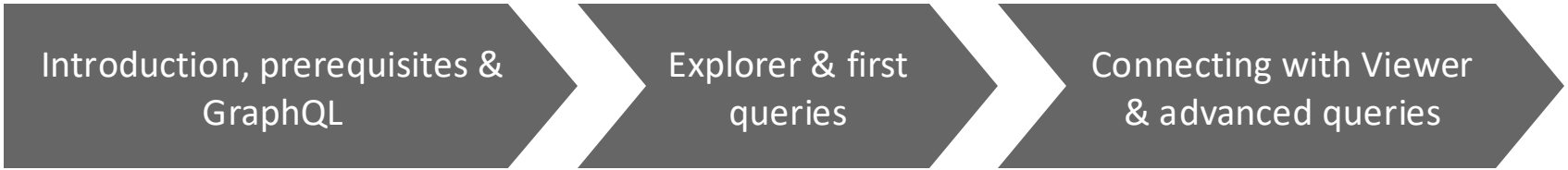
AEC Data Model

Recording in progress



Recording in progress

Agenda for today



8:00am – 8:45am

9:00am – 9:45am

10:00am – 11:00am

- Times are in GMT/PST
- Times are approximate; *you* decide how fast we go

AUTODESK
Platform Services

Recording in progress

Prerequisites

Recording in progress

Prerequisites

- ACC account from the AMER or EMEA region
- Enable your ACC hub to the AEC Data Model.
- Download, unzip and upload the sample files to your ACC acount
- Provision access in your hub to the client id ***HKVjhUXySDGLGJimoIxAgDdpoCuZLlql***

AUTODESK
Platform Services

Introduction & GraphQL

A Fileless Future

From Files…

Big

Files are big, course, and require transformation

Slow

Sharing and synchronizing files is slow, wasteful, and resource intensive

Messy

Many versions and derivatives of files is messy to manage

…to Granular Data

Granular

Access just the parts of the data you need, without needing all the data at once

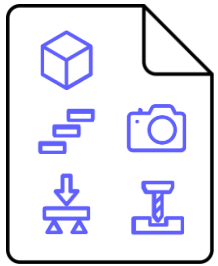
Interoperable

Common formats and data types allow data to be easily consumed

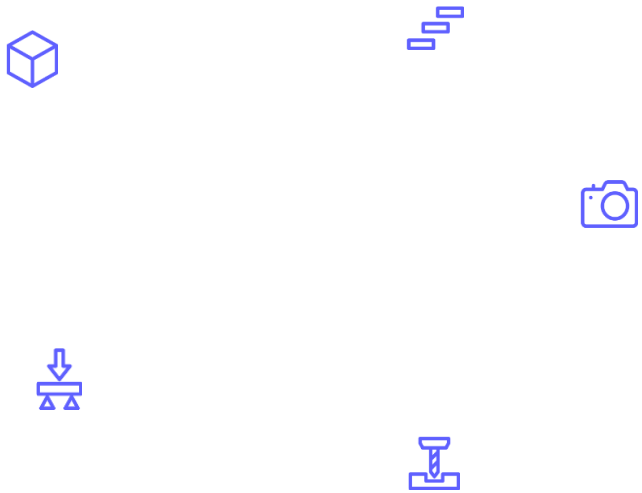
Accessible

APIs allow users to access up-to-data data without needing the authoring application

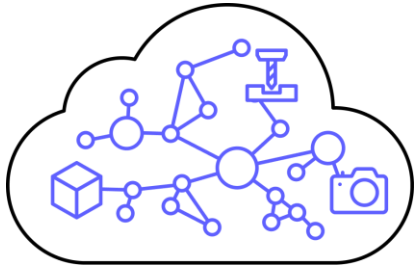
What we mean by “Granular” is…



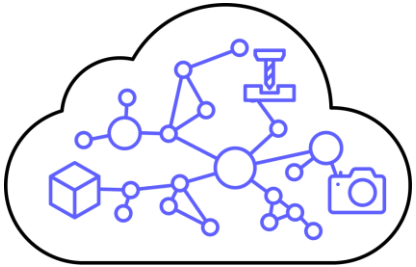
breaking up files into valuable bits of data…

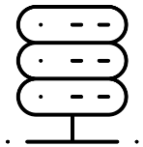


...and storing and managing it in the cloud

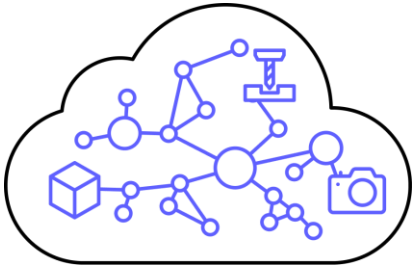


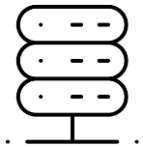
Allowing people & machines to collaborate efficiently…



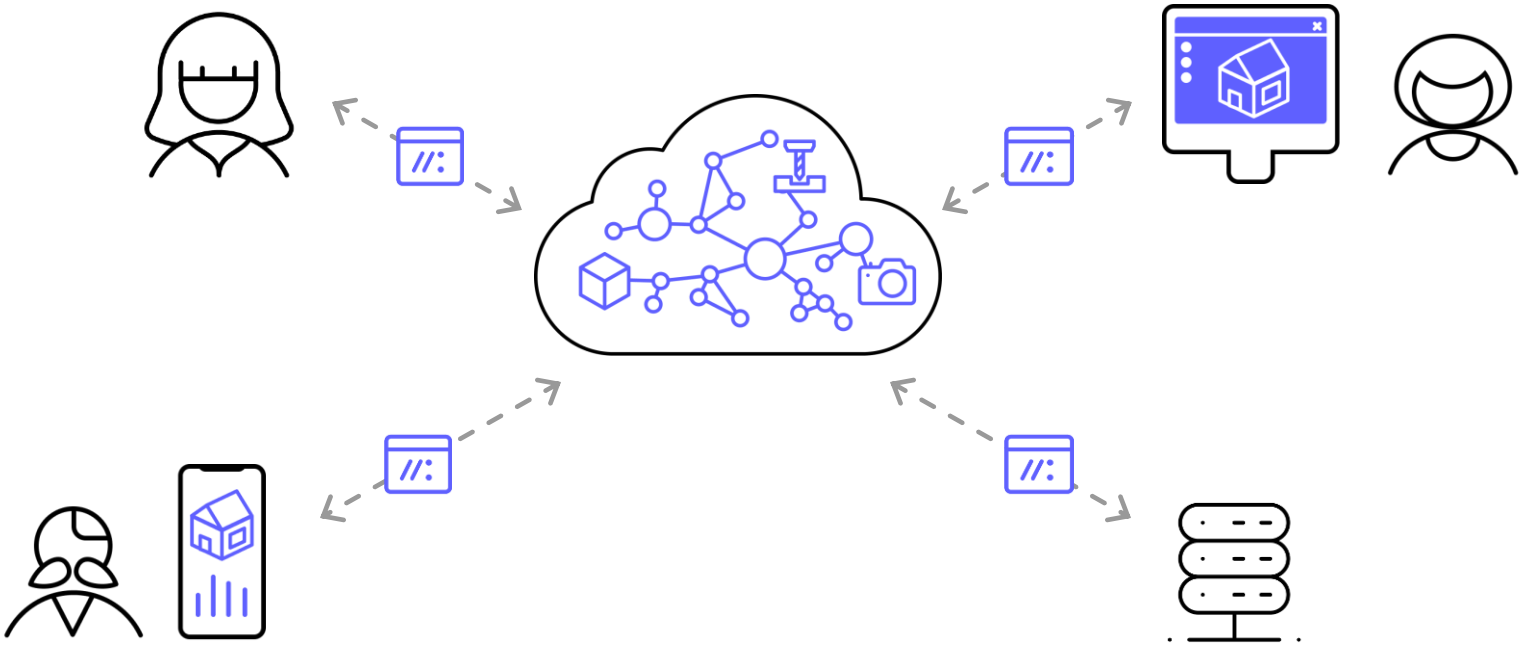


...by giving them access to just the data they need



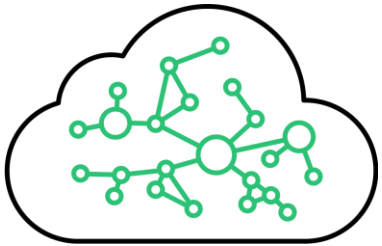


…through simple to use, granular APIs.



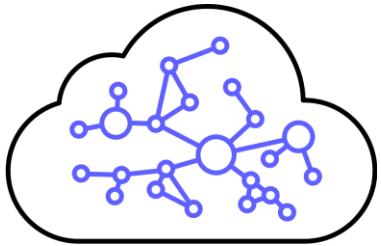
The Autodesk Data Models

Fusion



Design & Manufacturing

Forma



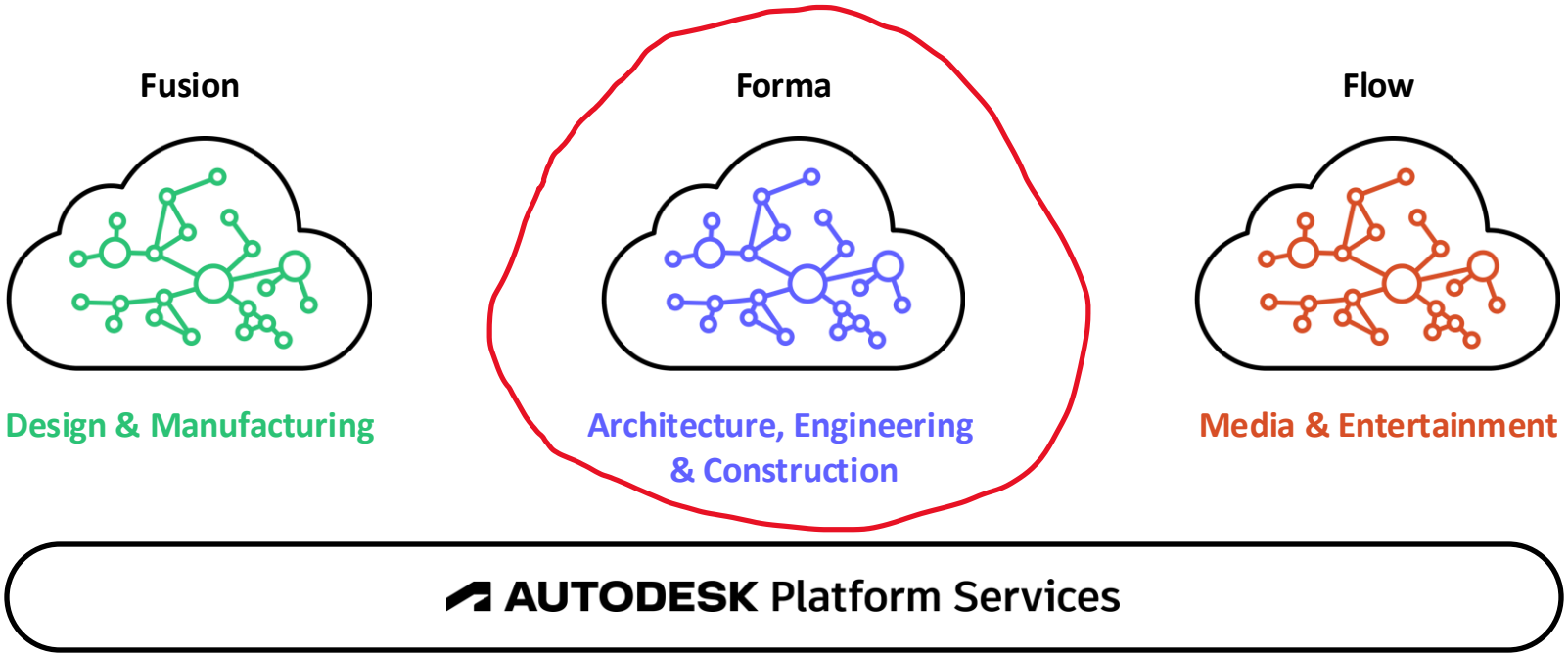
Architecture, Engineering & Construction

Flow

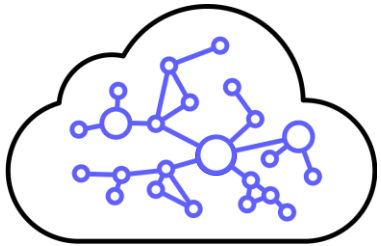
Media & Entertainment

AUTODESK Platform Services

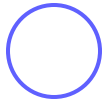
The Autodesk Data Models



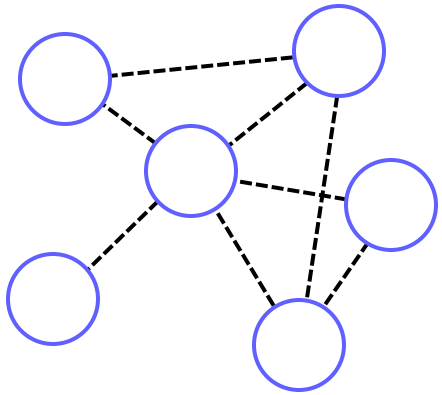
Each Data Model is a graph



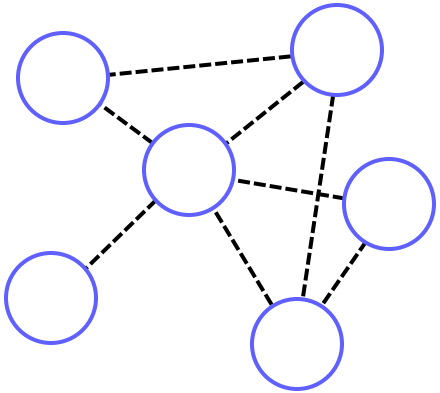
Each Data Model is a graph

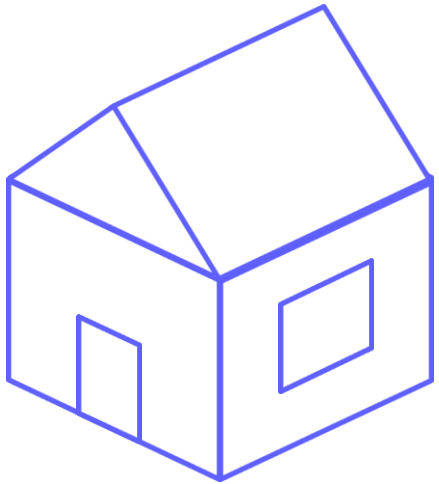


Each Data Model is a graph

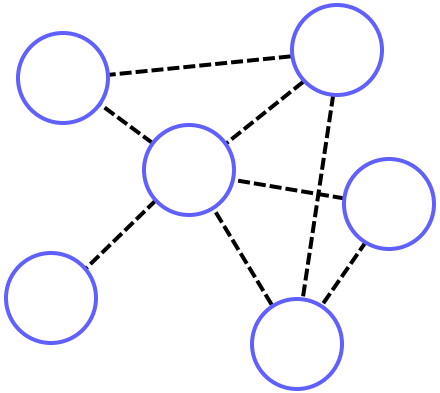


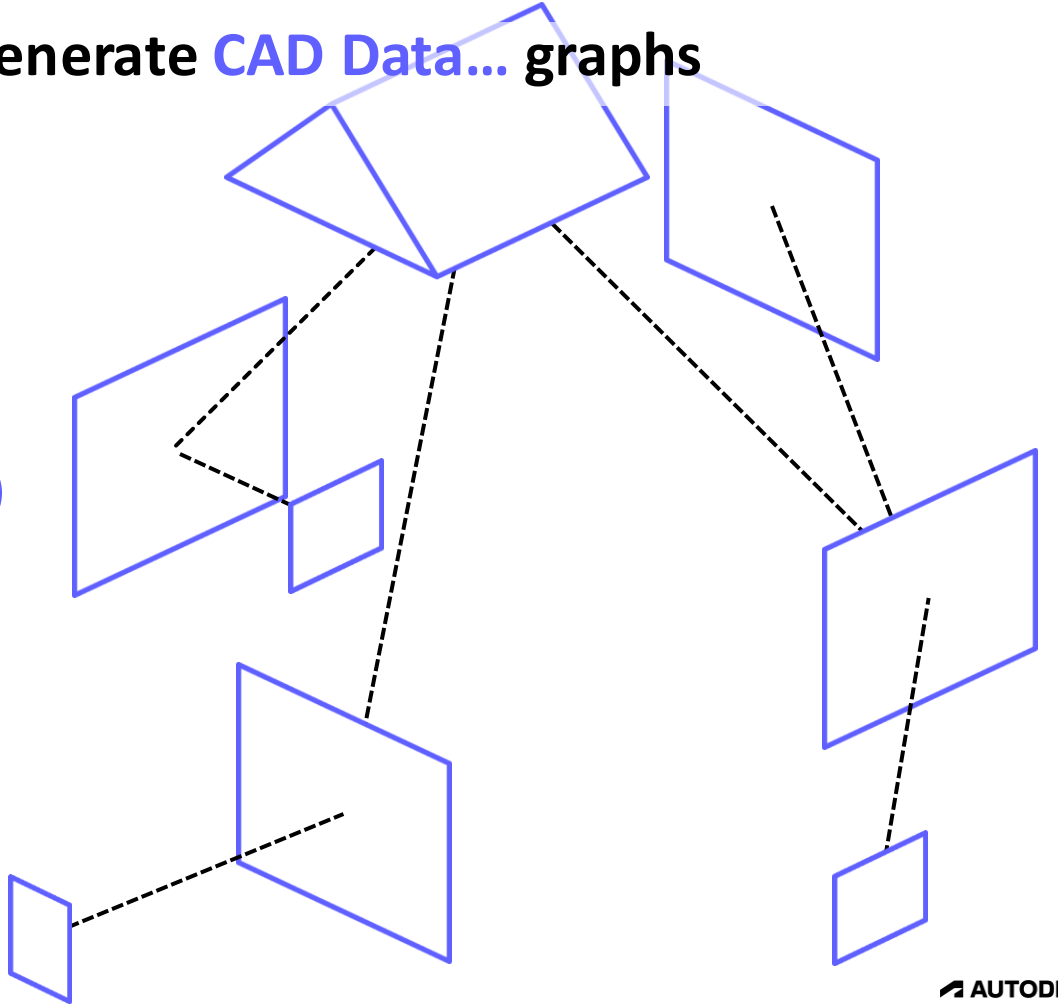
Our apps generate CAD Data… graphs



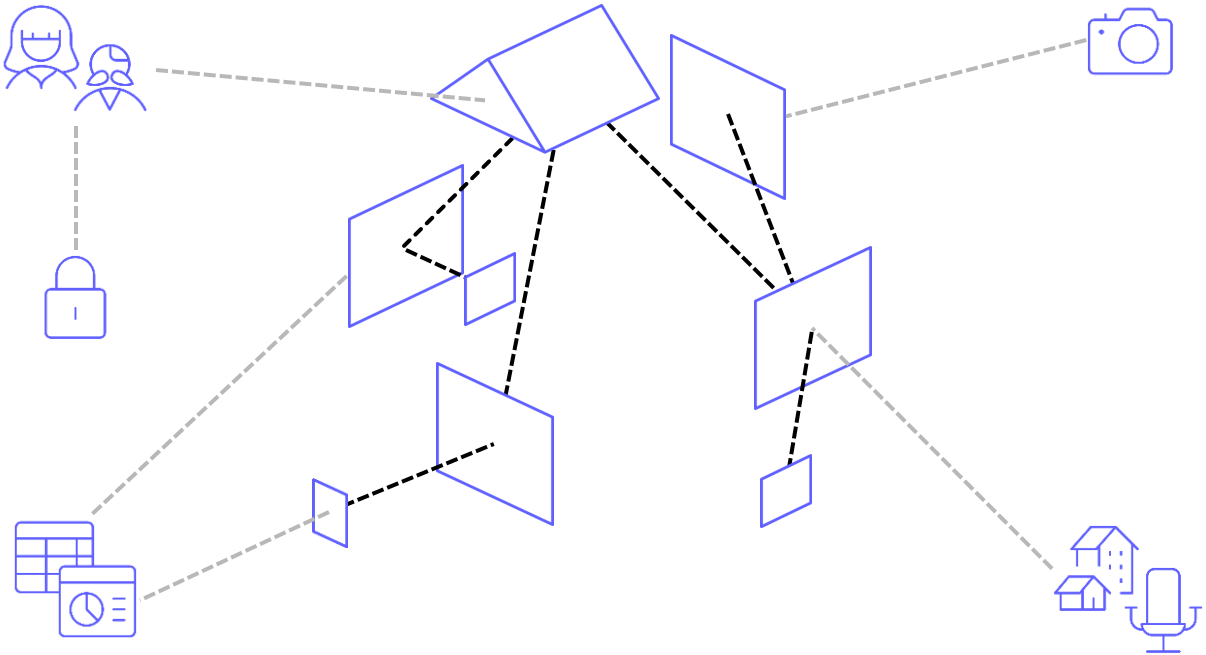


Our apps generate CAD Data… graphs

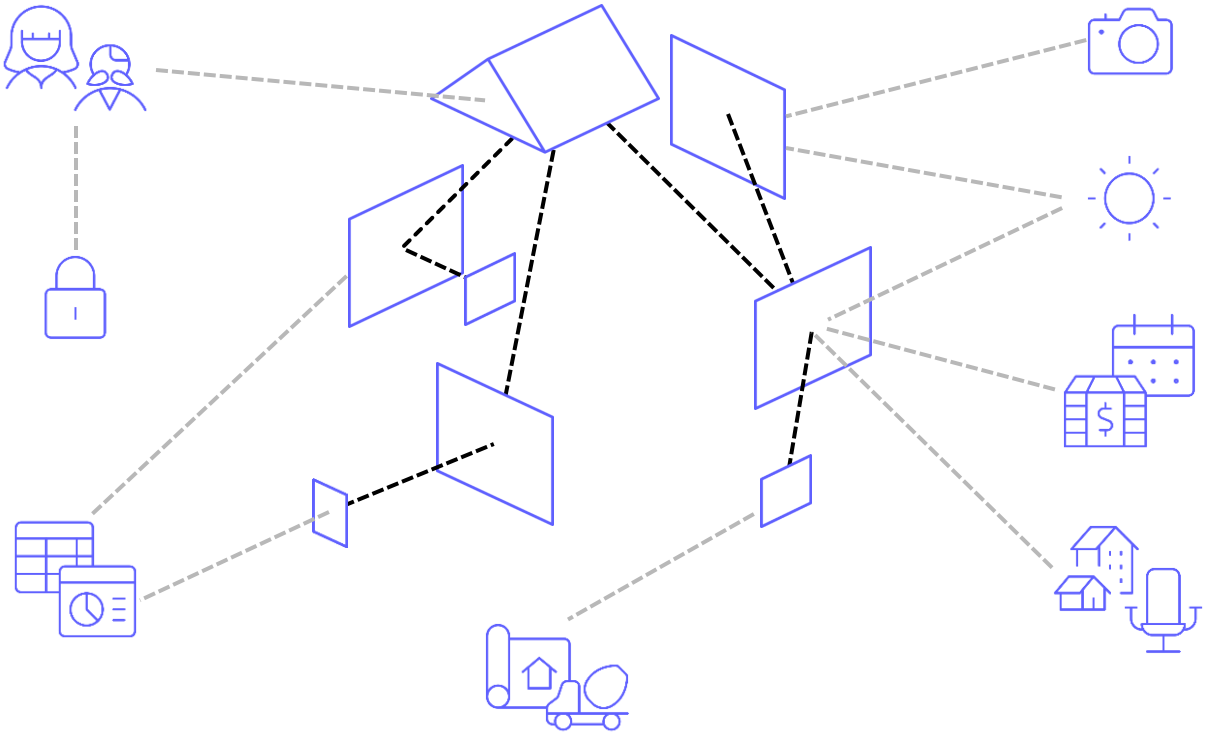




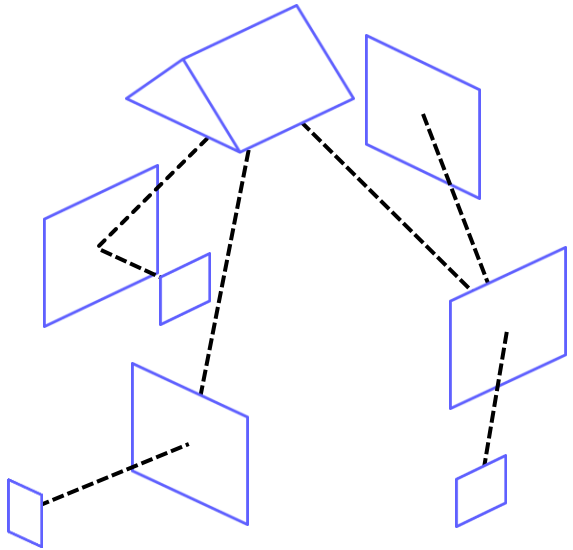
A rich web of interrelated data



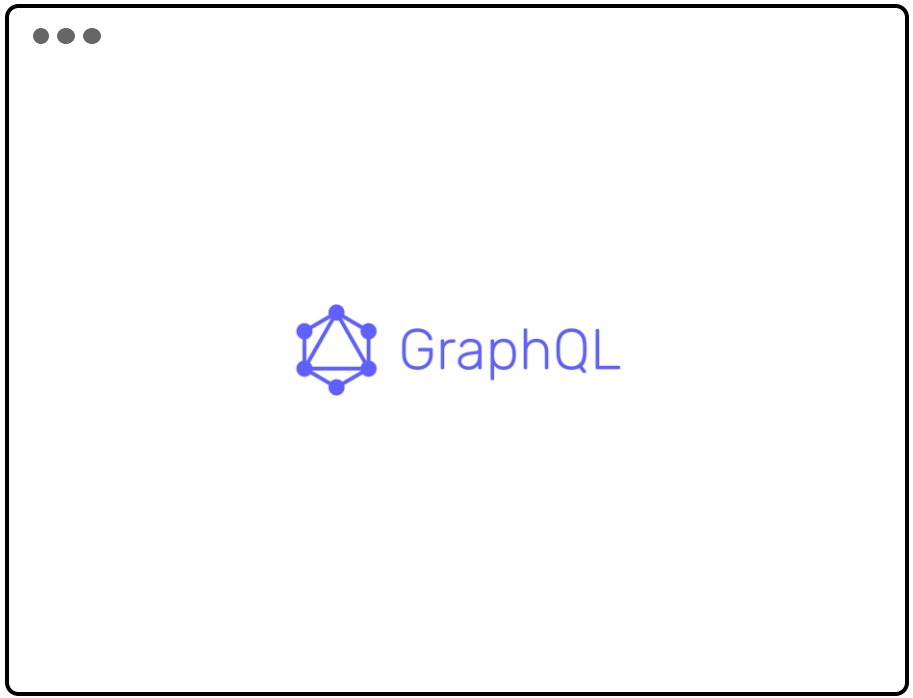
A rich extensible web of interrelated data

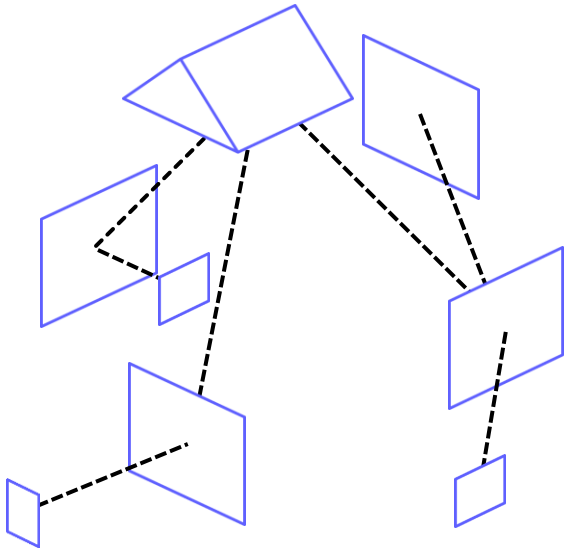


How to query these graphs of data?



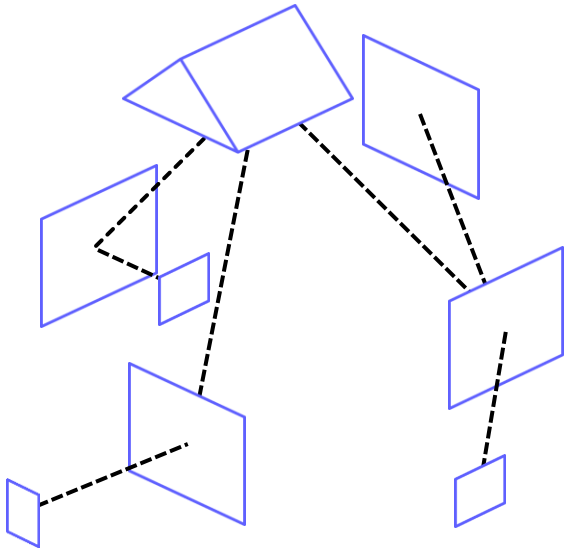
GraphQL APIs for our design and make graphs





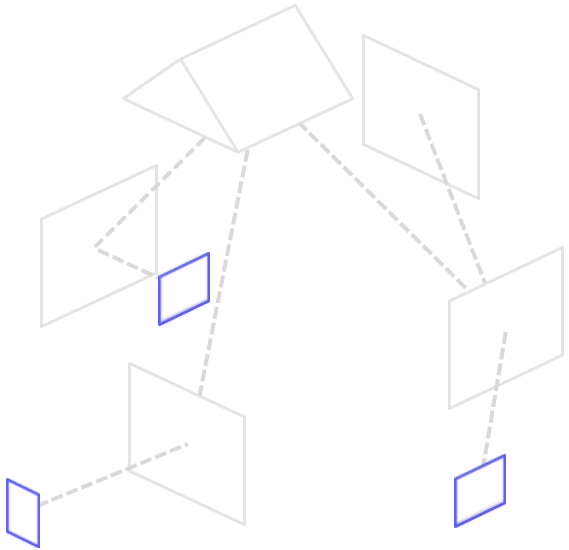
Easy to learn & human-friendly

```
query GetAllWindows {
  elements(filter: {query:"type==window"}) {
    results {
      name
      properties {
        width
        height
        fire-rating
      }
    }
  }
}
```



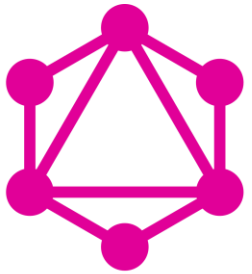
Return only the data you ask for

```
query GetAllWindows {
  elements(filter: {query:"type==window"}) {
    results {
      name
      properties {
        width
        height
        fire-rating
      }
    }
  }
}
```



What is GraphQL?

- A query language for the API
- Provides a complete and understandable description of the data in your API
- Gives you the power to ask for exactly what you need and nothing more
- Much easier to use than REST, but need to have better understanding of the data structures
- Open source project from Meta/Facebook



GraphQL

AUTODESK
Platform Services

```
{
  hero {
    name
  }
}
```

```
{
  "hero": {
    "name": "Luke Skywalker",
    "height": 1.72,
    "mass": 77
  }
}
```

AUTODESK
Platform Services

Explorer & first queries

Explorer & first queries

1. Introduction to the explorer
2. Understanding the AEC Data Model Schema
3. Check GraphQL Voyager
4. Run first queries

AUTODESK
Platform Services

Connecting with Viewer & advanced queries

Connecting with Viewer & advanced queries

1. Understand the connection with Viewer

2. Run advanced queries

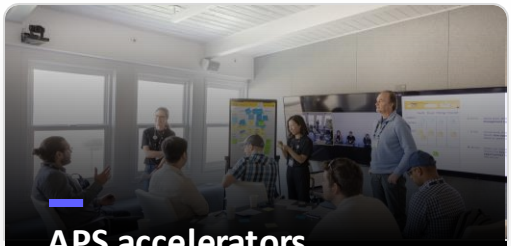
Almost Done!

Need more help?

- Stack Overflow
  - autodesk-platform-services
  - autodesk-aec-data-model
  - autodesk-viewer
  - autodesk-data-management
  - autodesk-model-derivative
  - autodesk-designautomation
- APS developer portal
  - Support > Get Help

Take your APS skills to the next level

Find us here

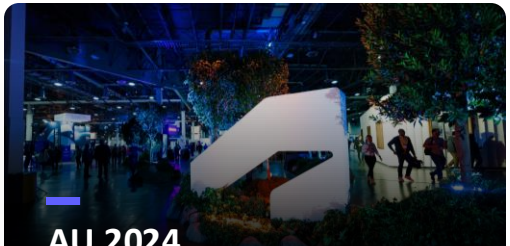


APS accelerators

A free **technical support event for software developers** working with Autodesk Platform Services.

- Online – **next week!**
- Barcelona – September 23-27
- Atlanta – December 9-13 (*to go live soon*)

aps.autodesk.com/accelerator-program



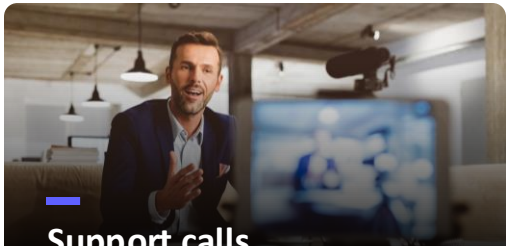
AU 2024

The Design & Make Conference

San Diego, October 15-17

- APS Keynotes
- 50+ APS sessions
- Community meetups
- APS booth at the Expo

autodesk.com/autodesk-university



Support calls

1-1 online meetings with APS experts through Calendly

calendly.com/autodesk-platform-services

Follow APS News

/autodeskplatformservices

@autodeskaps

aps.autodesk.com/#newsletter

After the event

- Expect an email with
  - Links to session recordings on YouTube
  - Links to slides used during sessions

- Want to take your newly acquired skills to the next level?
  - Accelerators: https://aps.autodesk.com/accelerator-program
  - Lightning Talks: https://aps.autodesk.com/lightning-talks
  - Blog: https://aps.autodesk.com/blog

Please participate in our feedback poll

AUTODESK

Thank you!

Autodesk and the Autodesk logo are registered trademarks or trademarks of Autodesk, Inc., and/or its subsidiaries and/or affiliates in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders. Autodesk reserves the right to alter product and services offerings, and specifications and pricing at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document.

© 2024 Autodesk. All rights reserved.