SD473691 - Forge Road Map: Visual Insights—Visualizing Data in Your Models

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About the speaker

Aradhana Vaidya

Aradhana Vaidya is a Sr. Product Manager for Forge Graphics at Autodesk, where she is responsible for shared graphics components for desktop, web & cloud that are used by multiple Autodesk products.

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About the speaker

Jessica Di Zio

Jessy is a Sr. Product Manager responsible for the Forge Viewer and its new advanced extensions. Looking to solve user problems within the Forge ecosystem.

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What we will cover

• What is Forge and Forge Viewer?
• What’s possible
• Viewer Examples
• Viewer Roadmap
• What’s coming?
  • IoT Extension (demo)
Forge Viewer
What is Forge?
A cloud-based developer platform from Autodesk
FORGE

A set of web service APIs
What’s possible

Data Visualization & Analysis
Digital Twin
Augmented & Virtual Reality
SaaS Integration
Catalogs
Configurators
Design Automation
Photo to 3D
Forge is APIs

- **Data Management API**
  Access and manage files and data

- **Reality Capture API**
  Create 3D models from photos

- **Design Automation API**
  Automate design and editing

- **Model Derivative API & Viewer**
  Convert files, extract data and view 2D and 3D models

- **BIM 360 API**
  Build apps and custom integrations for the AEC industry

- **Webhooks API**
  Receive event notifications from Autodesk Web Services
What is Forge Viewer?

API to visualize 2D & 3D models on the web

webGL based client-side Javascript library
Viewer Examples

External applications

Simulation Hub
https://www.simulationhub.com/

EarthCam
https://www.earthcam.com/

Vue Ops
https://www.vueops.com/

https://forge.autodesk.com/customers
Roadmap – Forge Viewer

What was done this year:

• Native vector PDF
• Enhanced materials from 3DS Max models to Shared views (LMV)
• Scene builder API
• Ability to view DWF files natively
Native vector PDF

Check presentation video for further details
Enhanced materials in 3DSMax to Shared Views

Check presentation video for further details
Upcoming enhancements

**LARGE MODEL HANDLING**
- Faster loading & viewing of large models (SVF2)
- Viewing rebar geometry
- Support for point clouds
- Querying, slicing, filtering of data

**SUPPORT OPEN STANDARDS**
- Support for emerging open standards – glTF, USDZ, MaterialX, etc.

**NEW EXTENSIONS**
- Aerial mini-map
- Depth of field
- Quick measure

**ENHANCED DEV EXPERIENCE**
- Advanced features to build custom visual experiences
- Improved documentation
Advanced Features:
Visualizing IoT data on top of BIM models
Data Today

We generate about 2.5 quintillion bytes of data each day*

Data is useful when we get insights from it.

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• Smart Watches 🕐

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• Smart Watches
• Maps with traffic / point of interest data

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Data is useful when we get insights from it.

- Smart Watches 🕐
- Maps with traffic / point of interest data 🚨
- Spread of COVID 🤔


At Autodesk, we are striving to bridge physical and digital
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This is why we are working on converging Digital Twins data with business data sources.

A digital representation of a physical entity
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We believe that by empowering more people to get access to more insights, we are enabling more innovation to the world.
Our mission at Forge, is to provide the building blocks for people like you to make innovation possible.
Visualizing design data and IoT data

Let’s see it in action...
Check presentation video for further details
IoT Extensions

*Demo Recap*

- React-based reference app
  - Open-source Widgets libraries (Apache echart)
- Data Adapters to IoT Hubs (Azure, AWS)
- IoT Visualization
  - Dots (sensors)
  - Heatmaps
  - Timeline
Benefits to Web Developers

- Reduce Development Time (time-to-helloWorld)
- Lower Level of Graphics Expertise Required
  - Decrease Complexity
- Enhance Overall Experience
Benefits to Business Owners & Innovators

• Collect insights faster

• Decrease downtime & safety hazards due to:
  • Accurately diagnoses of problems
  • Preventive care

• Reduce operational cost by improving asset performance (utilities, people experience...)

• Reduce human errors by leveraging technologies like machine learning
If you...

• Want to try this advanced IoT extension
• Have an IoT use case that wasn't covered
• Just want to learn more

Reach out to us!

Go to https://hyperion.autodesk.io
Thanks for listening

Questions?

• Use the comments in the AU class page
• Visit https://forge.autodesk.com
• Go to the Forge Answer Bar