

# Dynamo for BIM Managers

*aka Managing Dynamo and Dynamo for Managing*

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Design Technology Expert | Data Shapes

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Design Technology n00b | Parallax Team

**Aaron Maller**

Director | Parallax Team

**Sol Amour**

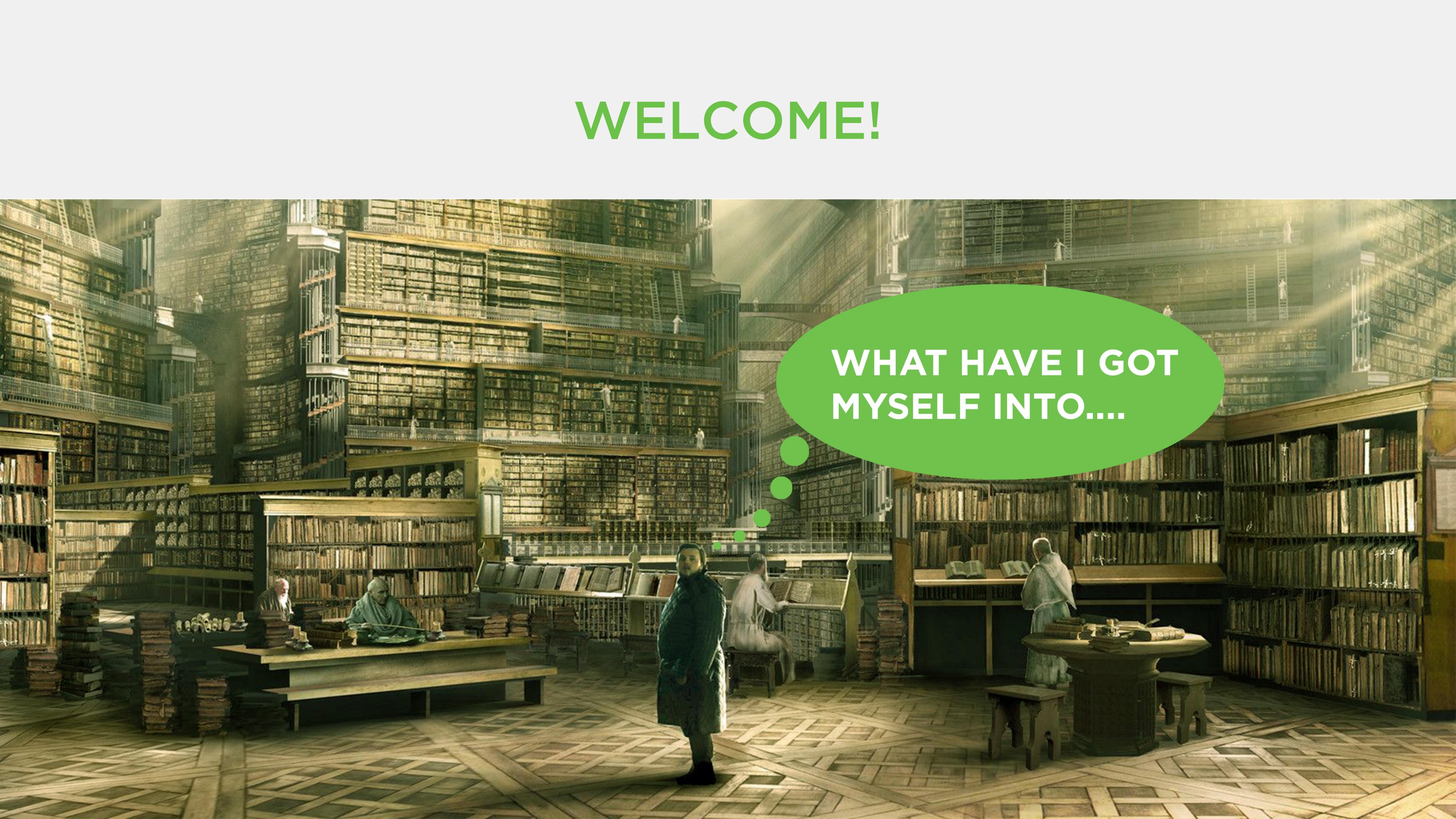
*Product Manager : Dynamo | Autodesk*

**Jostein Olsen**

*Good Monkey | Bad Monkeys*

## DYNAMO WORKSHOP



A wide-angle photograph of a grand, historical library. The room is filled with floor-to-ceiling bookshelves packed with books. Several people are visible: some are seated at long wooden tables, reading or writing; others are standing or moving through the space. The architecture is classical, with high ceilings and decorative moldings. Sunlight streams in from high windows, creating bright rays and shadows.

**WELCOME!**

**WHAT HAVE I GOT  
MYSELF INTO....**

**SOLRON**

**MOSOL**

**JOJOHN**

**AAREIN**

**JOSTAFA**



ARCHITECTS

BUILDING  
ENGINEERS

CONSTRUCTION  
PEOPLE

CIVIL  
ENGINEERS

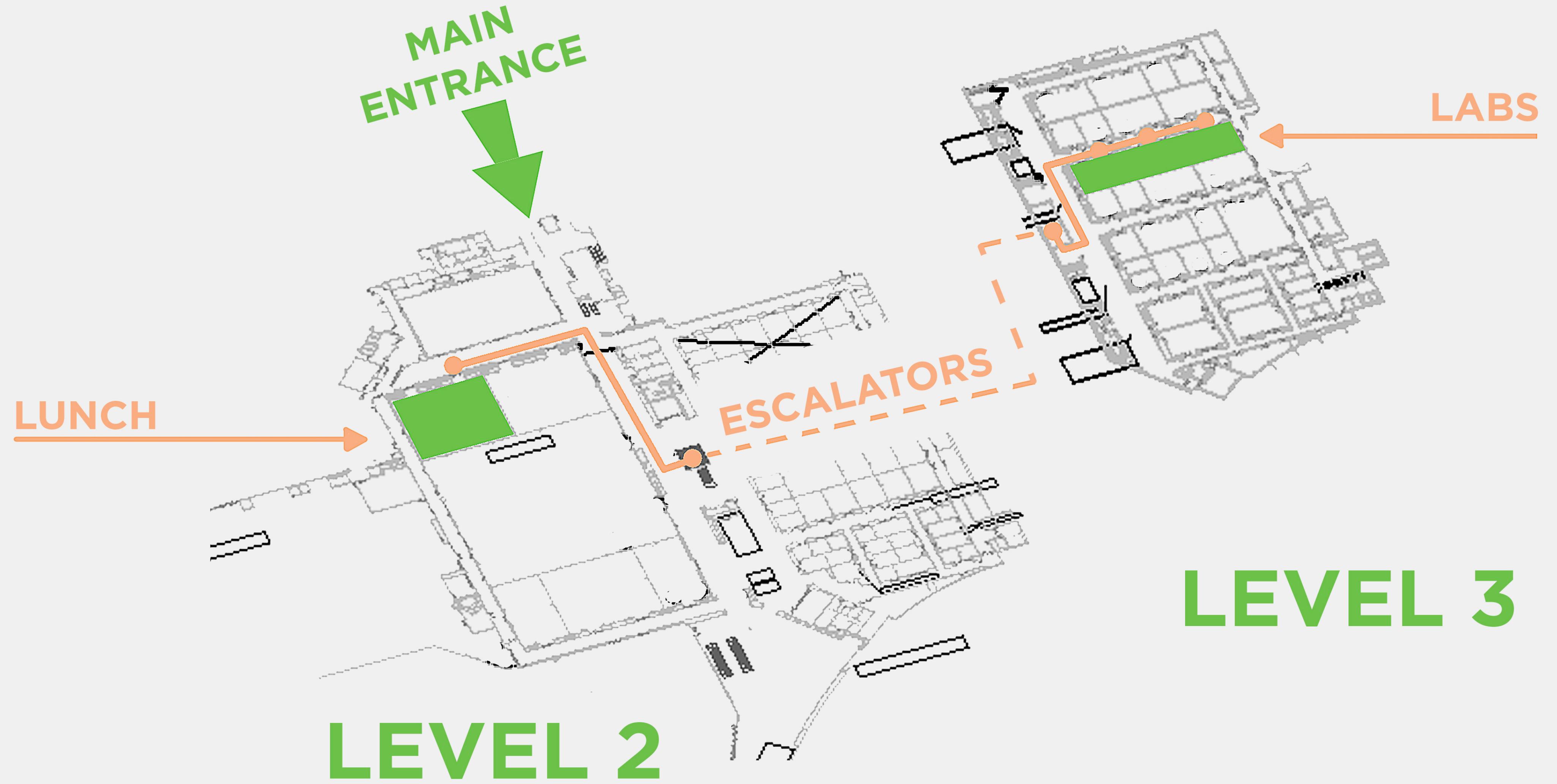
OTHER  
DISCIPLINES

**TWO TRUTHS  
ONE LIE**

# Schedule

	8:30-9	9-10:30		11-12:30	12:30 – 1:30	1:30-3	3:30-5	5-6:30
Dynamo from BIM Automation to Generative Design	Introduction	Dynamo Kickstart: 3 scripts to automate your BIM workflow.	Break	What is generative design? how to define a problem and "hello Refinery"	Lunch	Using Dynamo and Refinery with Revit 1 Office Layout	Break	Using Dynamo and Refinery with Revit 2 Lighting Layout
Dynamo for BIM Management & Deployment	Introduction	Unravelling Dynamo	Break	Shippable Scripts	Lunch	How to Teach Dynamo Effectively	Break	The Journey of a Project
Dynamo for Software Developers	Introduction	Python	Break	C# for Beginners	Lunch	Zero Touch Nodes	Break	Extensions





# TOILETS

WHAT IF I TOLD  
YOU



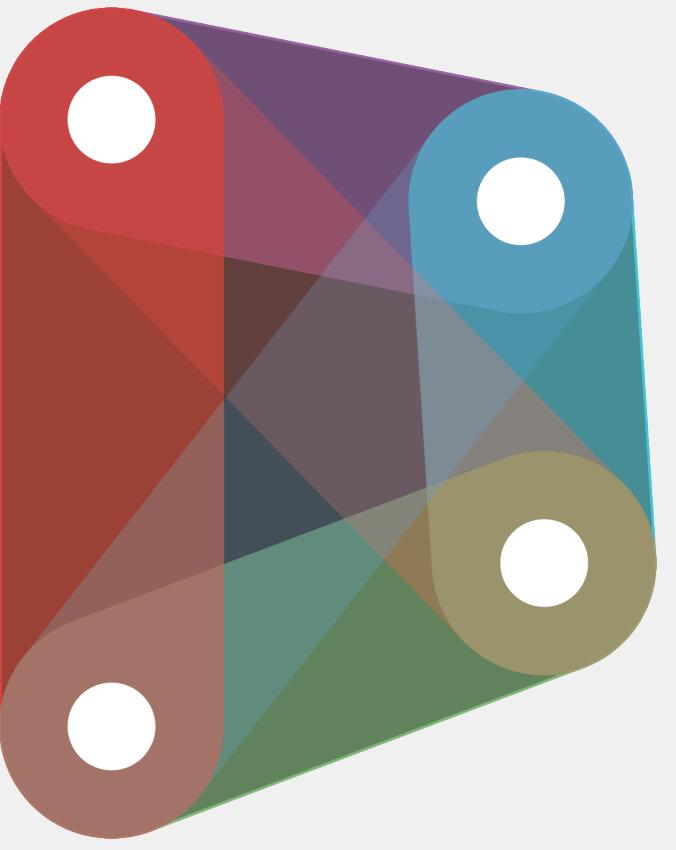
THERE IS NO SUCH THING  
AS TOILETS



DYNA\_LIGHTNING

SEÑOR FROGS  
WEDNESDAY 20th

pre-registration entry 8pm  
first come, first serve 8:30pm



# DYNAMO

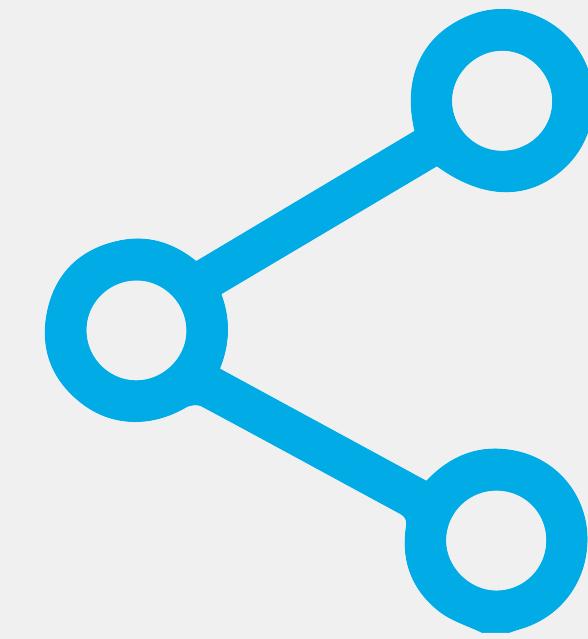
[ ROADMAP | DEVELOPMENTS | FUTURE FOCUS ]



PERFORMANCE  
& STABILITY



LEARNING  
& SELF HELP



SHARING  
& COMMUNITY

DYNAMO : THE STATE OF TODAY

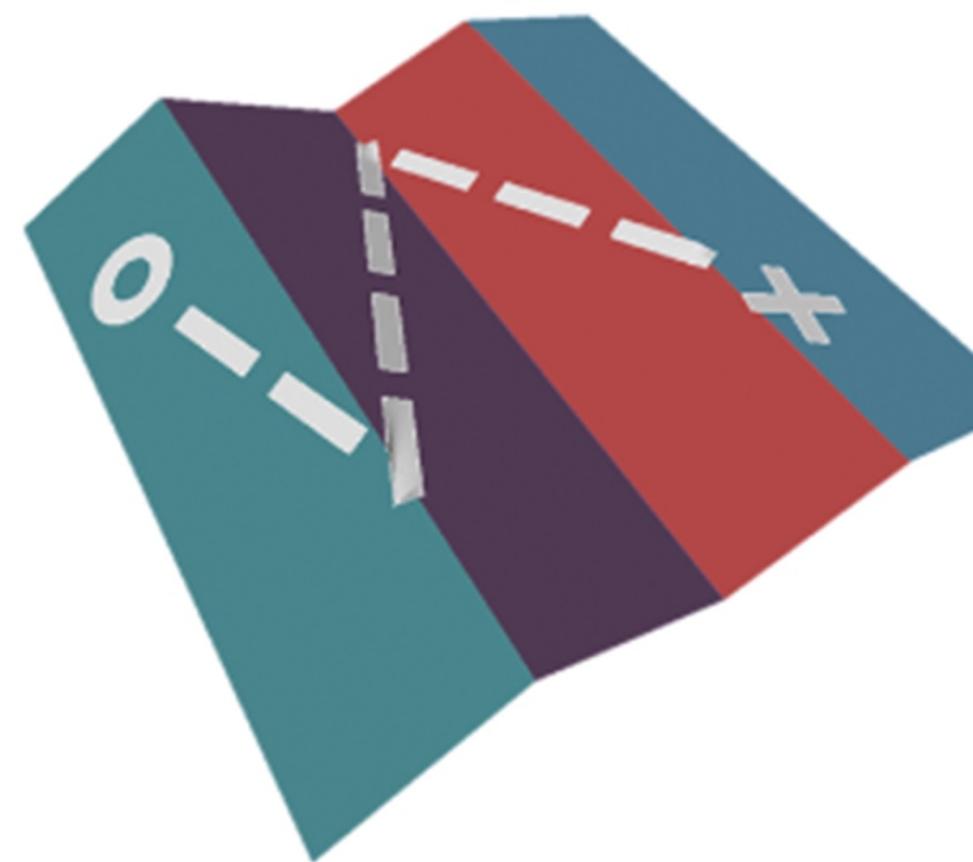
DynamoDS / Dynamo

Used by 112 Unwatch 180 Star 792 Fork 431

Code Issues 365 Pull requests 24 Projects 0 Wiki Security Insights Settings

## Dynamo Public Roadmap

Sol Amour edited this page on Sep 12 · 26 revisions



Hello everyone - For the first time in a long time, the Dynamo team is releasing a Public Roadmap to talk about the awesome new features and developments on Dynamo we're working on right now and into the near future! In this Roadmap you'll find out what we are working on for the next quarter, where Dynamo is headed and why we chose this path.

But first, a quick caveat...

**Terms and Conditions:** This Roadmap will make statements regarding our planned development efforts. These statements are not intended to be a promise or guarantee of future delivery of fixes, focus or features but merely reflect our current plans, which are subject to change. The Dynamo team intends, but assumes no obligation to, update this forward-looking roadmap to reflect events that occur or circumstances that

Edit New Page

Pages 67

### Releases

- Release Notes

### Roadmap

- Dynamo Public Roadmap

### Contributing

- How to contribute to Dynamo
- Choosing A Pull Request Template
  - Major
  - Feature
  - Incremental
- Coding standards
- Naming standards
- Testing expectations
- Prepare for a new release

### How To

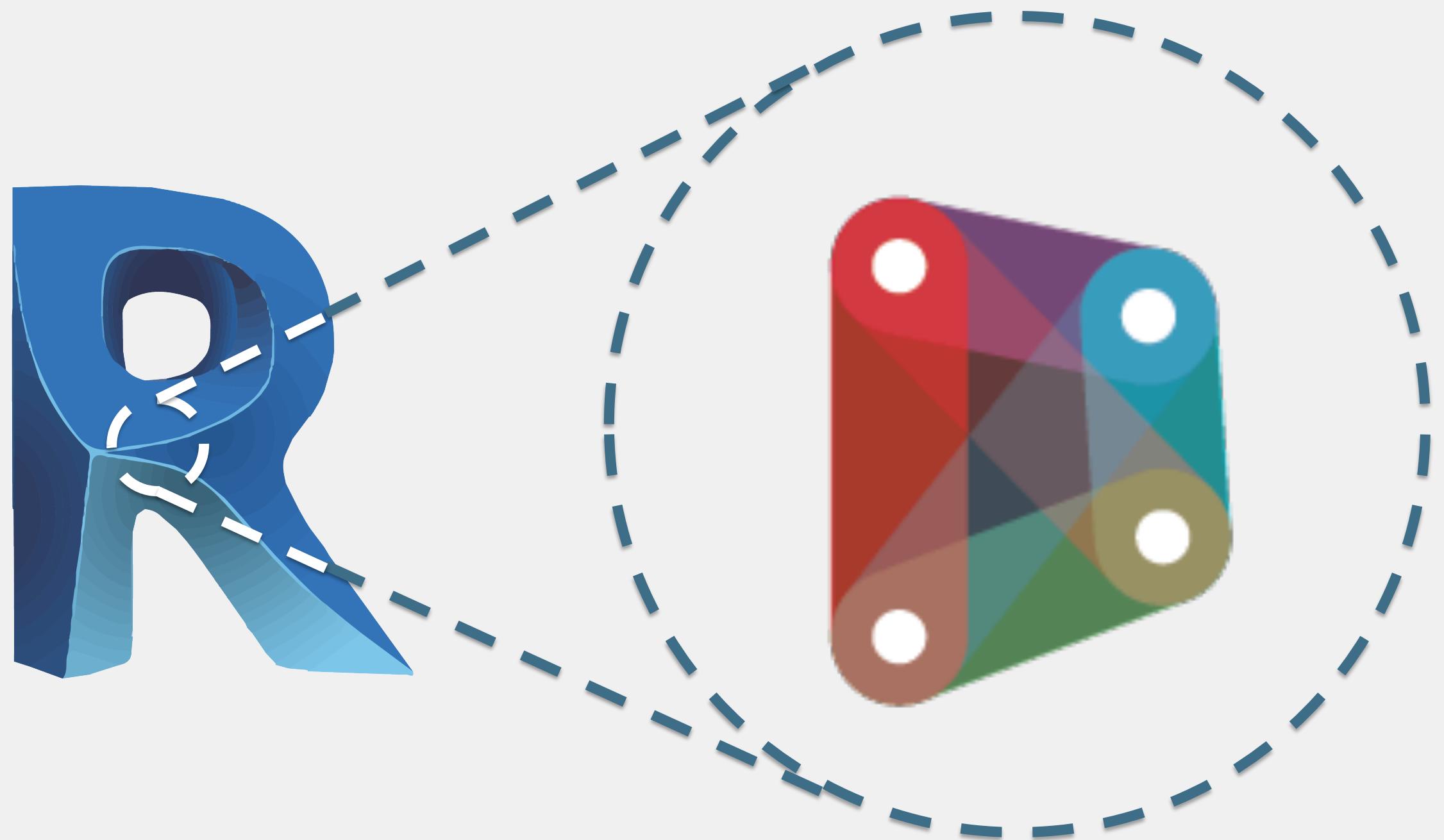
- Utilize Dynamo Builds
- Create your own library for

<https://github.com/DynamoDS/Dynamo/wiki/Dynamo-Public-Roadmap>

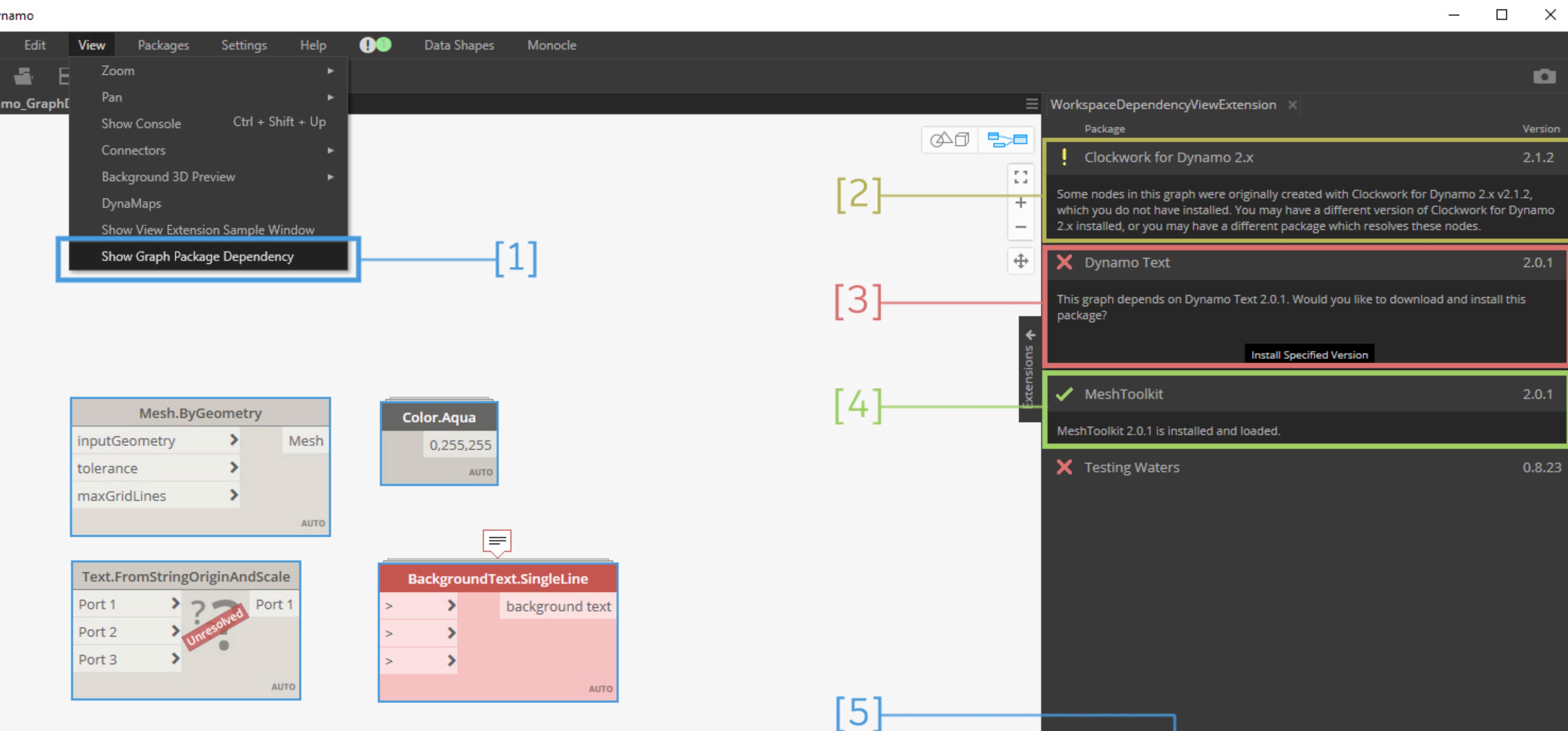
Setting the tone

Zero Touch Node

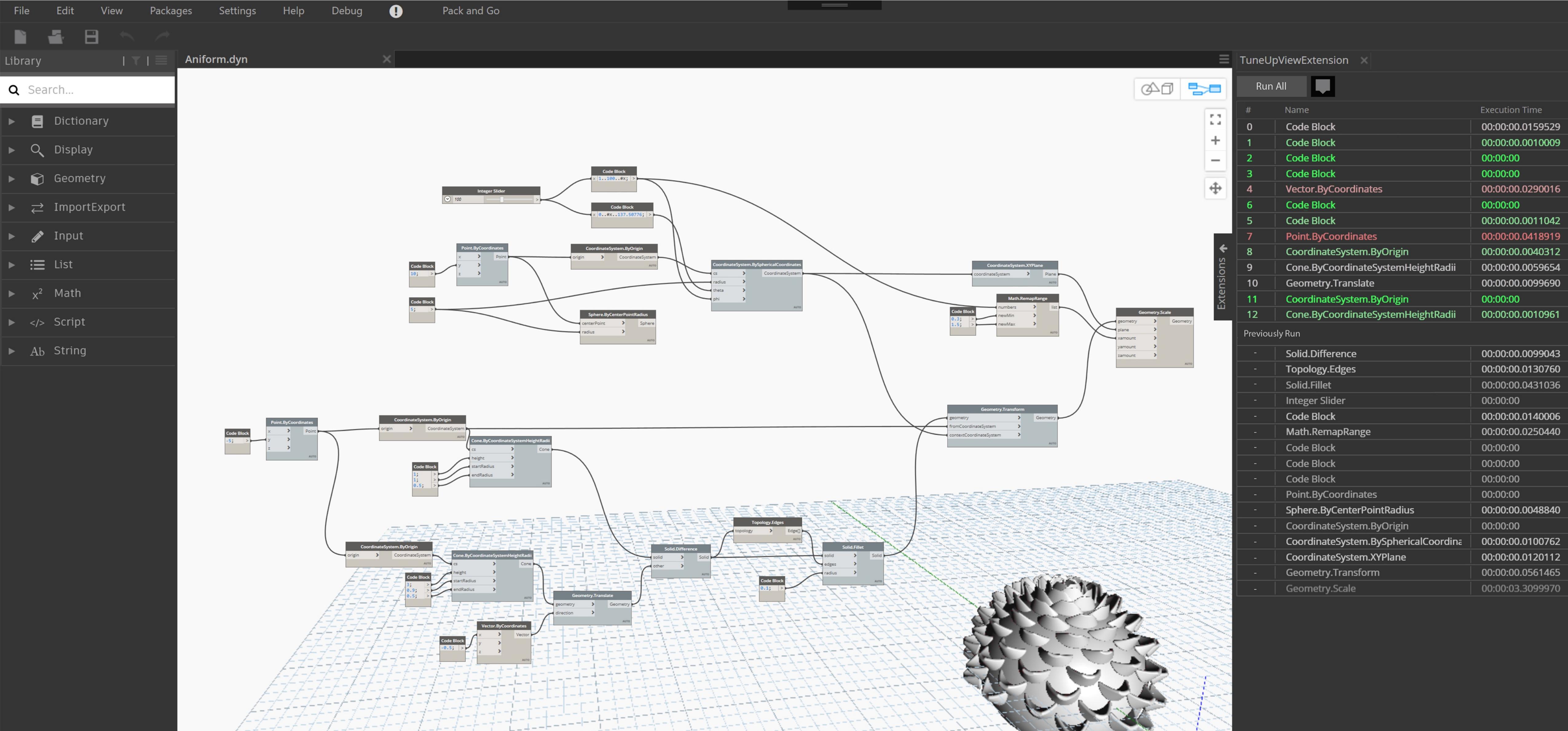
- Write a Library with ZeroTouch



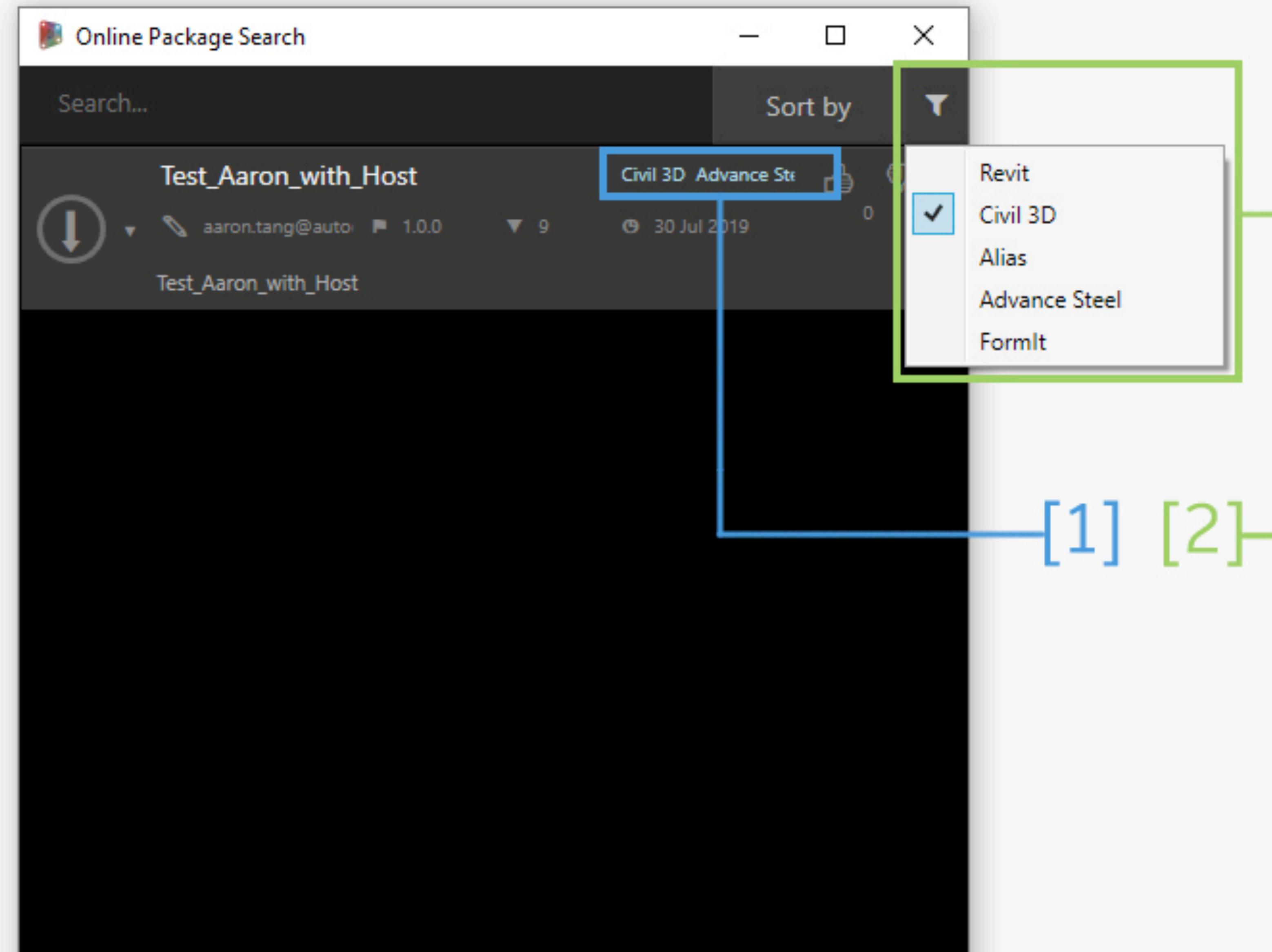
DYNAMO 4 REVIT : CLOSER LINKS & NOW A FEATURE OF REVIT



## “WORKSPACE DEPENDENCY VIEWER” [ NAME TBD ]



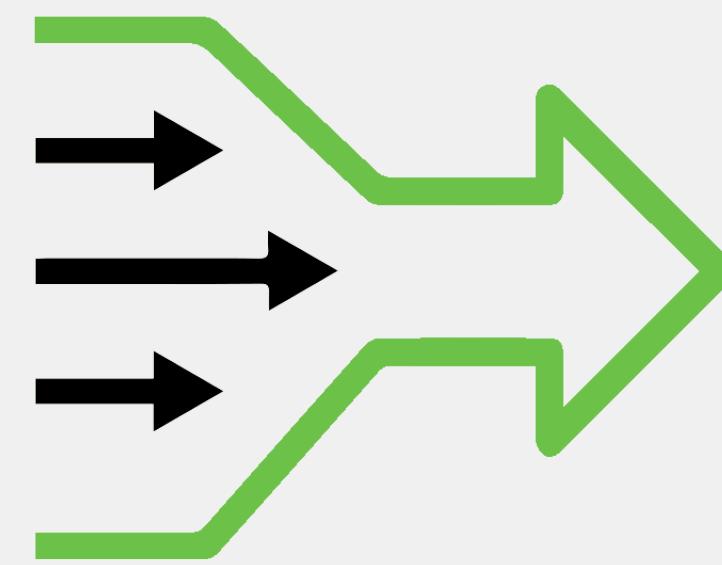
# TUNE-UP : “NODE RUN TIME” VIEW EXTENSION



PACKAGE MANAGER: "HOST FILTER"



MORE  
POWERFUL

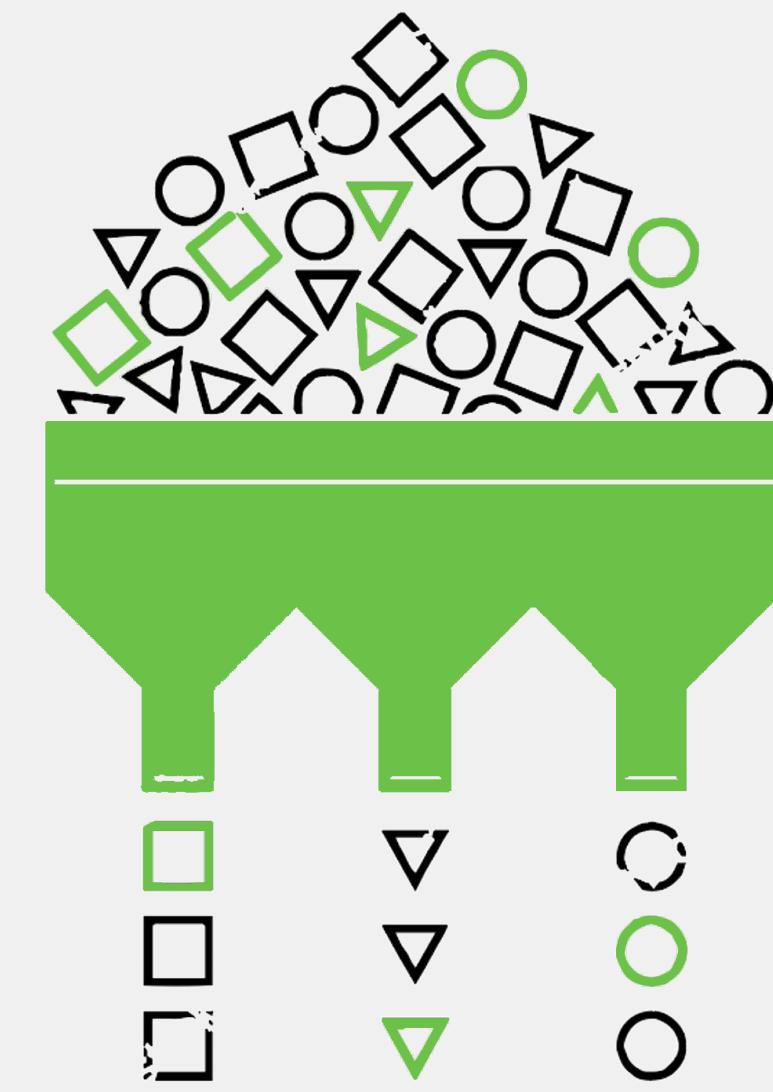


SIMPLER  
TO USE



SMARTER

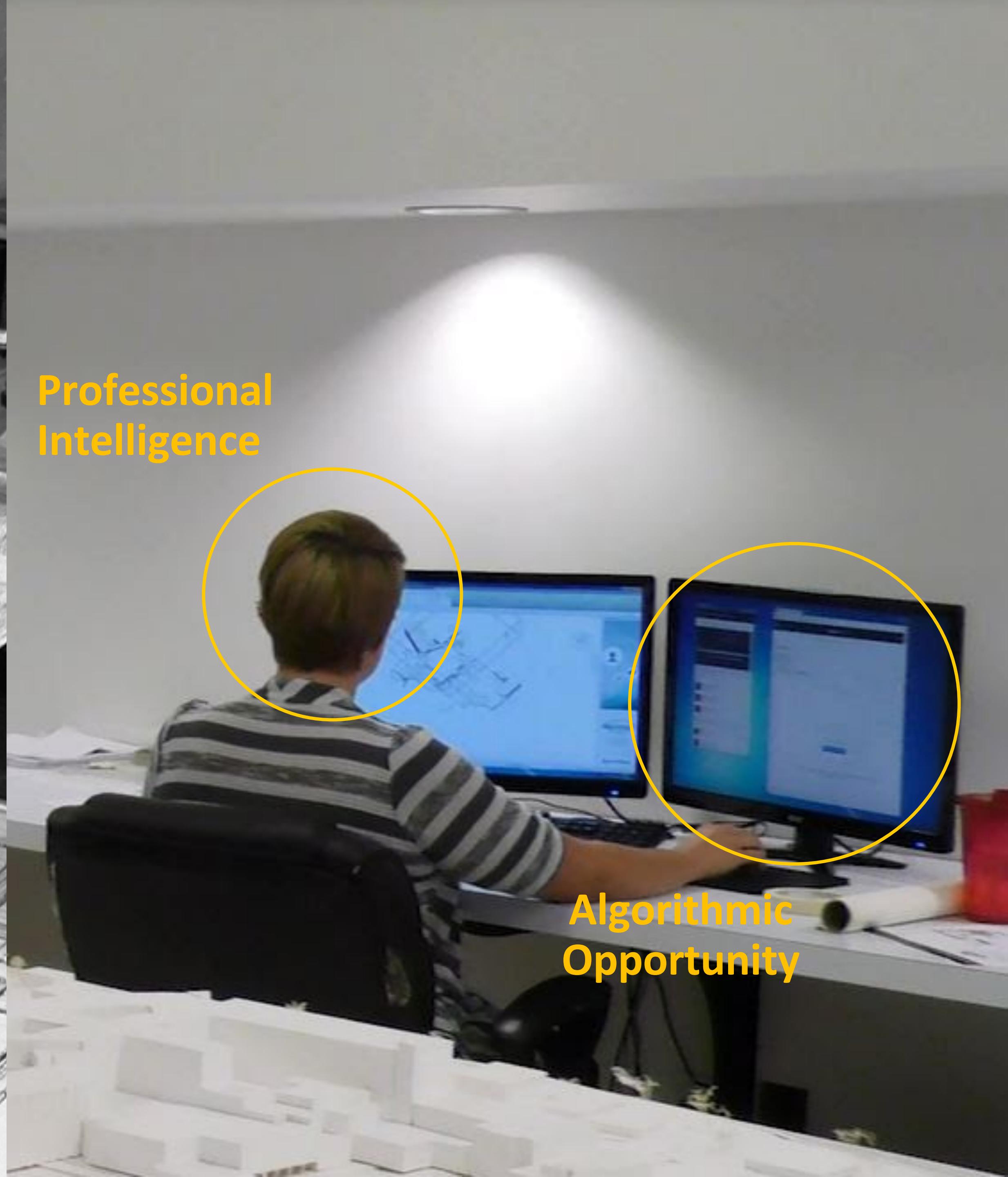
DYNAMO : THE STATE OF 'TOMORROW'



REFINERY

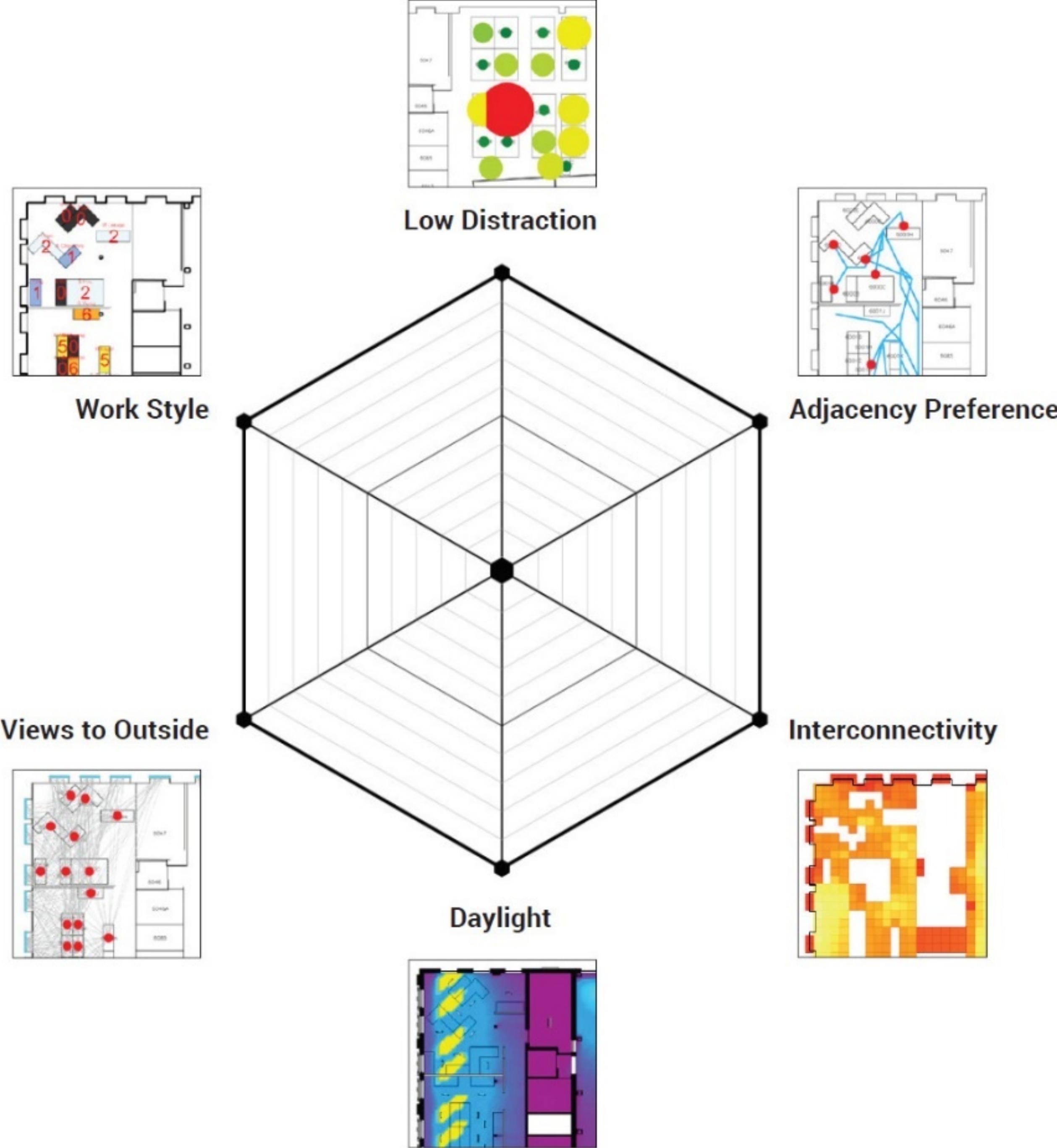


Professional  
Intelligence





THE LIVING  
AUTODESK.<sup>®</sup>  
RESEARCH



# LOW VISUAL DISTRACTION

Measurement of negative visual activity from workspaces.

## SCORING EQUATION

$$\text{DISTRACTION} = \frac{\sum [\text{Normalized Count of Visible Coworkers per Workspace}]}{\text{Number of Workspaces}} \times 10.0$$

## INPUTS

- + 2D Space Model (Geometry, including Obstructions)
- + Workspace locations and orientation

## COMPUTATION METHODS

- + Field of view ( 200° horizontal)
- + Upper distraction limit: 15 coworkers visible
- + Isovist polygon generation per workspace
- + Point inclusion in isovist

## OUTPUTS

- + Individual desk scoring (from 0 to 10)
- + Per floor aggregated scores (from 0 to 10)
- + Global distraction score (from 0 to 10)

## SCORE RANGE

- + 0.0 SCORE (WORST CASE) : All employees at or above upper distraction limit
- + 10.0 SCORE (BEST CASE) : All employees have zero visible coworkers



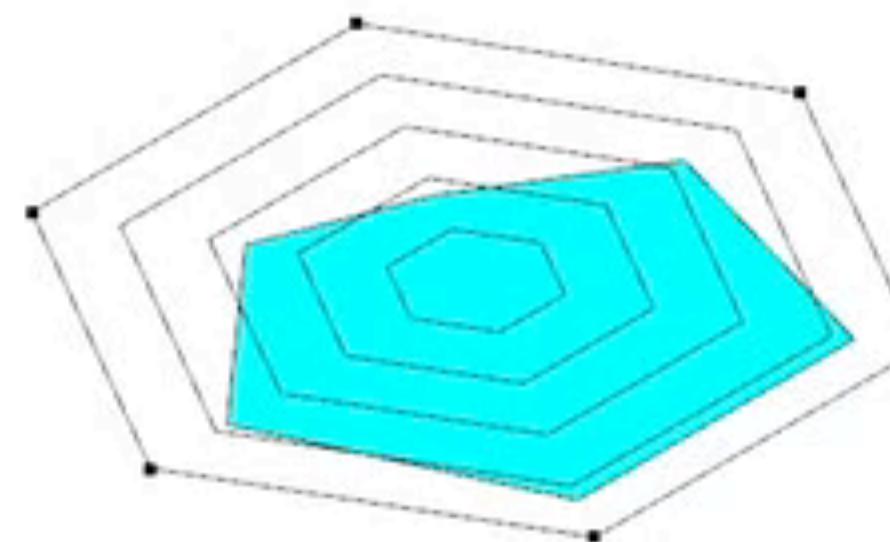
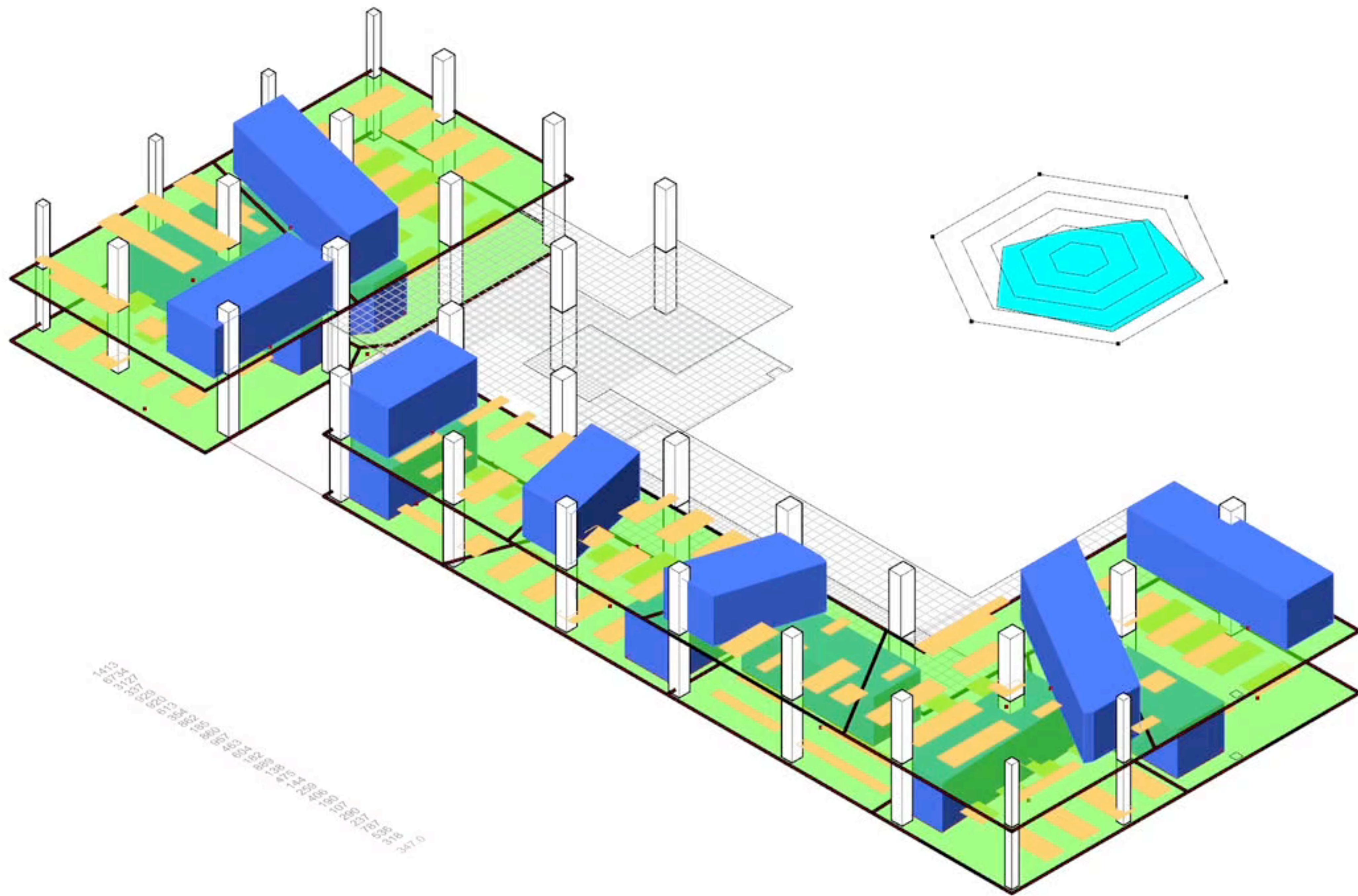
6<sup>TH</sup> FLOOR



5<sup>TH</sup> FLOOR



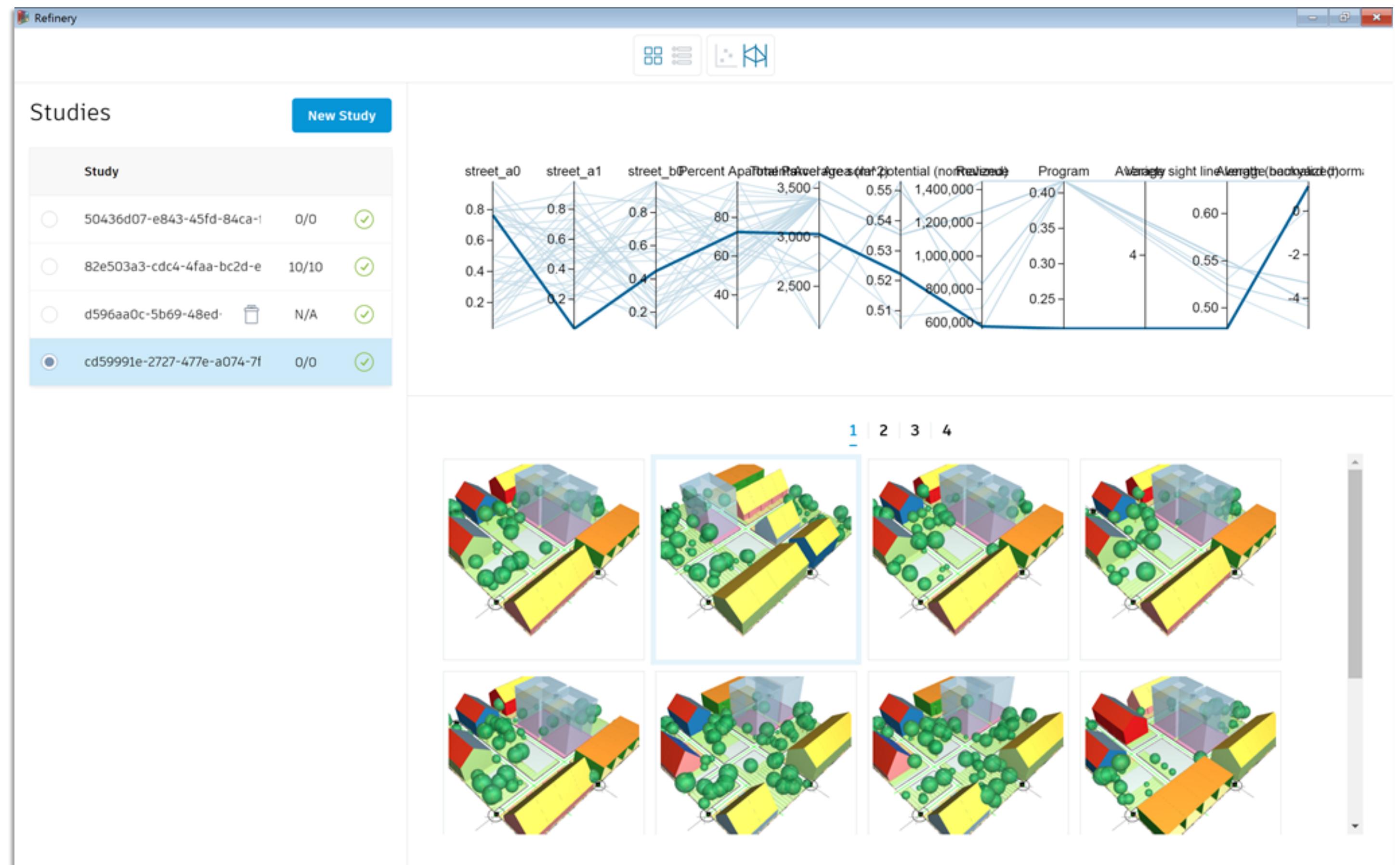
4<sup>TH</sup> FLOOR



Generative Design is the process of defining high-level goals and constraints, and then using the power of computation to automatically explore a wide design space and identify the best design option.

# Autodesk Public Beta

- Automatically run Dynamo created logic to create options
- Works on Dynamo for Revit
- Created for one customer VanWijnen 2/2018
- Public Beta 11/2018



WHAT IS PROJECT REFINERY?

AUTODESK  SEARCH SIGN IN UNITED STATES MENU

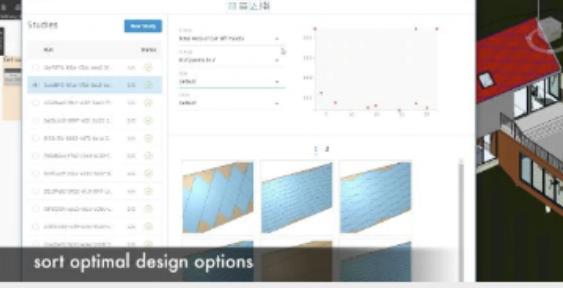
# Project Refinery Beta

An Autodesk generative design beta for the architecture, engineering and construction industry that gives users the power to quickly explore and optimize their Dynamo designs.

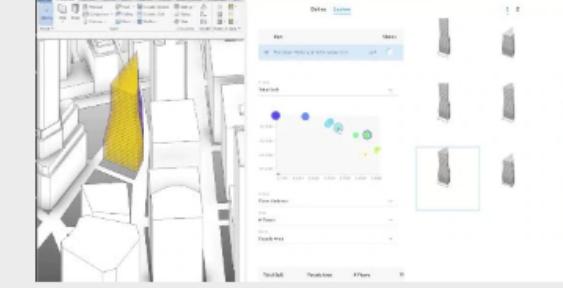
PLAY VIDEO (2:19 MIN.) FEEDBACK

Join the Refinery community today | SIGN UP FOR BETA ➤

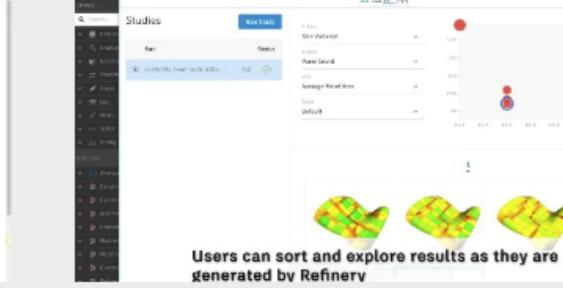
### What you can do with the Refinery beta



**PATTERNING STUDY**  
Explore how architects can use generative design in Refinery to minimize the number of panels and panel areas needed in the surface designs they create in Revit.  
[Play video \(1:17 MIN.\)](#)



**FLOOR AREA RATIO STUDY**  
Evaluate massing options for a building in an urban site and optimize for the number of floors, floor area, and facade area. Evaluate the optimal designs in their urban context.  
[Play video \(1:05 MIN.\)](#)



**PANELIZATION STUDY**  
Optimize grid designs for constructability, including the total number of panels, panel area, and size variance. Refinery produces panels that are more uniform, resulting in faster fabrication and installation.  
[Play video \(1:31 MIN.\)](#)

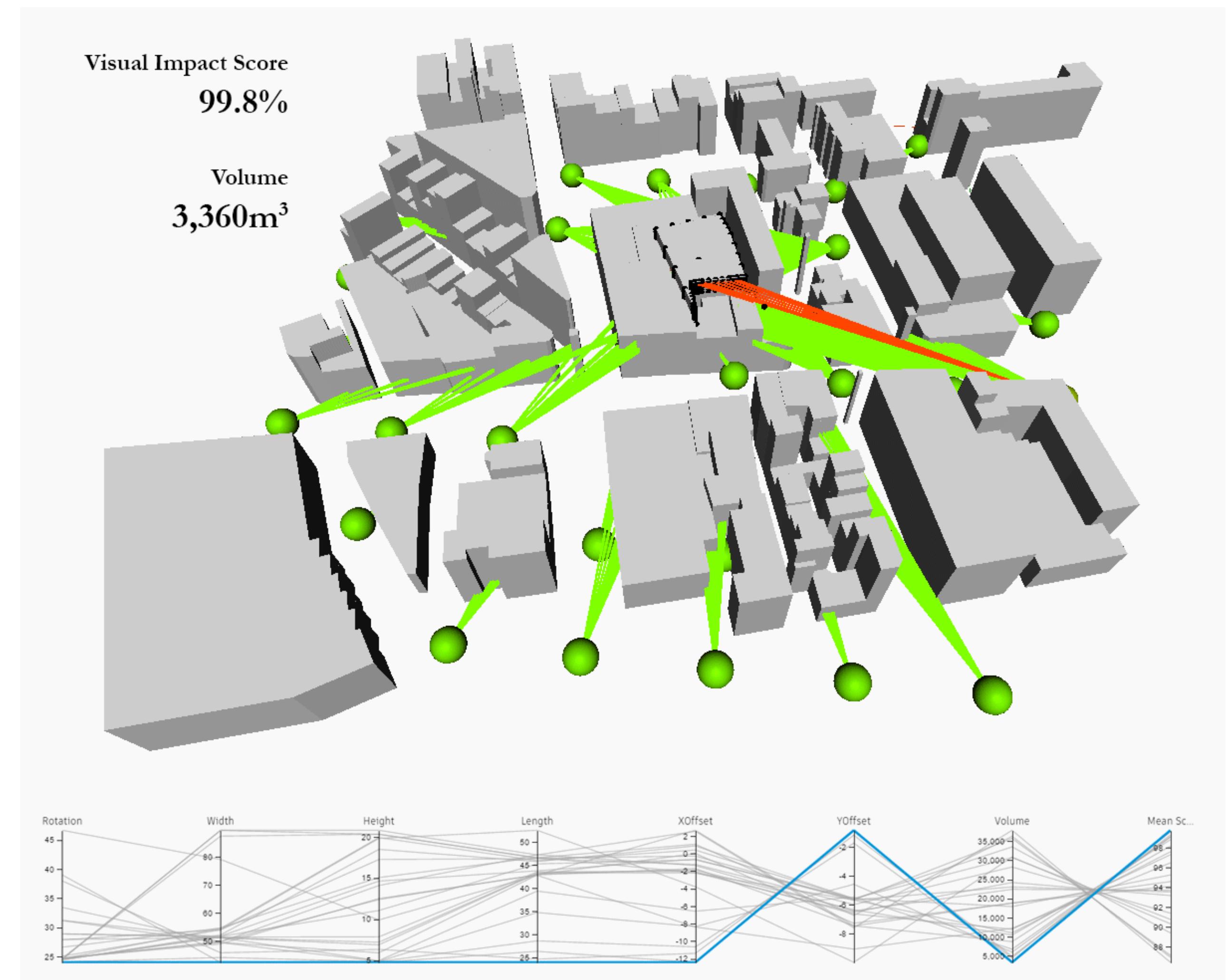
[autodesk.com/solutions/refinery-beta](http://autodesk.com/solutions/refinery-beta)

TEST IT OUT

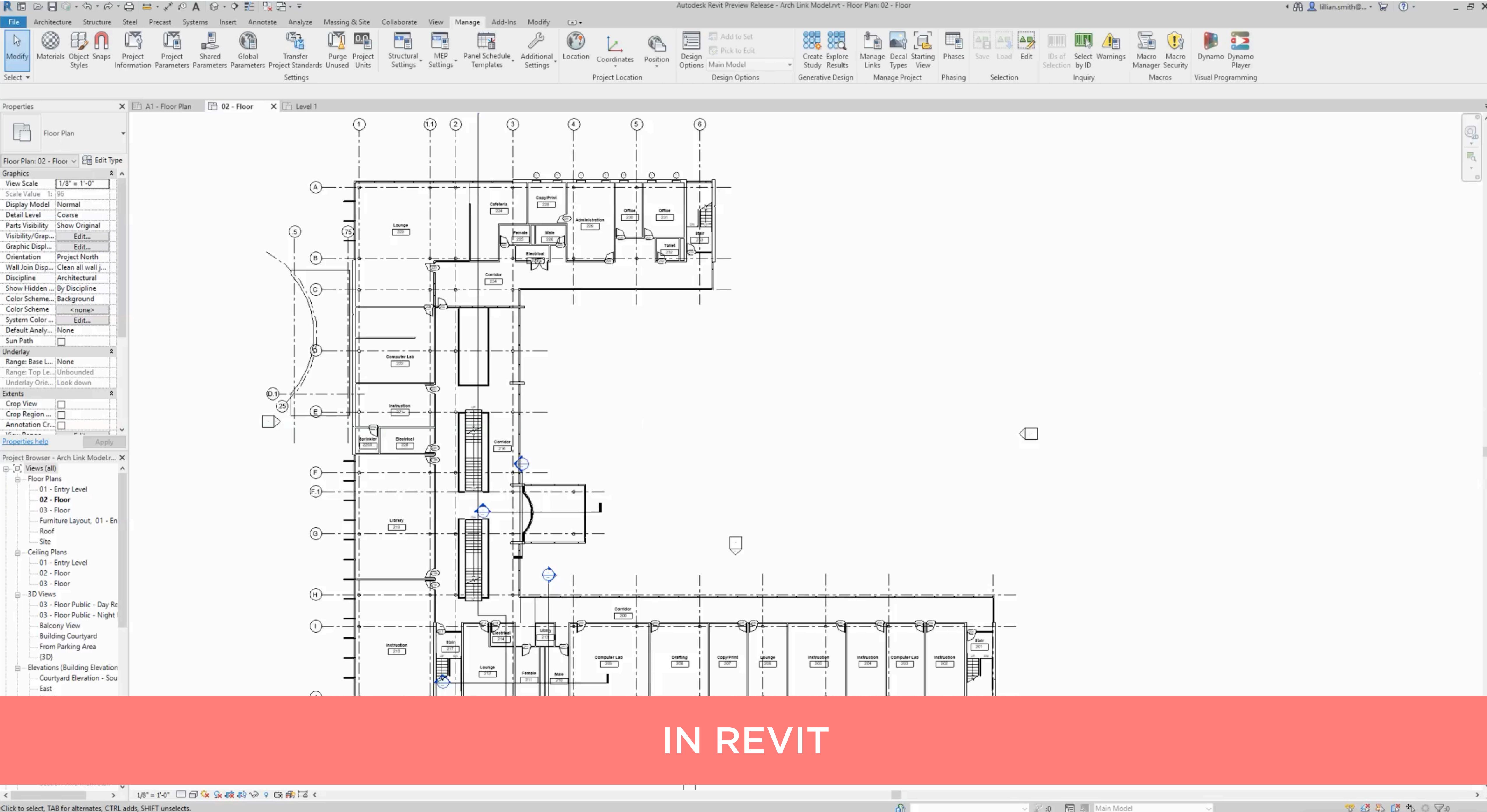


# Urban design within allowable constraints

What shape of building addition can we make on a rooftop that you can't see very much of from the ground?



## STEALTHY ROOFSCAPES



## Additional Learning Resources

### Getting Started with Dynamo:

- [primer.dynamobim.org](http://primer.dynamobim.org)
- [dynamobim.org/learn](http://dynamobim.org/learn)

### Dynamo Forum

- [forum.dynamobim.com](http://forum.dynamobim.com)

### Project Refinery

- [www.autodesk.com/solutions/refinery-beta](http://www.autodesk.com/solutions/refinery-beta)
- [refineryprimer.dynamobim.org](http://refineryprimer.dynamobim.org)

### Generative Design education

- [medium.com/generative-design](http://medium.com/generative-design)

### DesignScript

- [designscript.io/DesignScript\\_user\\_manual\\_0.1.pdf](http://designscript.io/DesignScript_user_manual_0.1.pdf)
- [dynamobim.org/wp-content/links/DesignScriptGuide.pdf](http://dynamobim.org/wp-content/links/DesignScriptGuide.pdf)
- [github.com/Amoursol/dynamoDesignScript](http://github.com/Amoursol/dynamoDesignScript)

# BEER BUST

[ to soothe melted brains ]

5:00 - 6:30 PM





Make anything<sup>TM</sup>

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