

Dynamo Express Lane: 12 Items or Less

Robert Cervellione

Woods Bagot , Design Technology Manager

About the speaker



Robert Cervellione

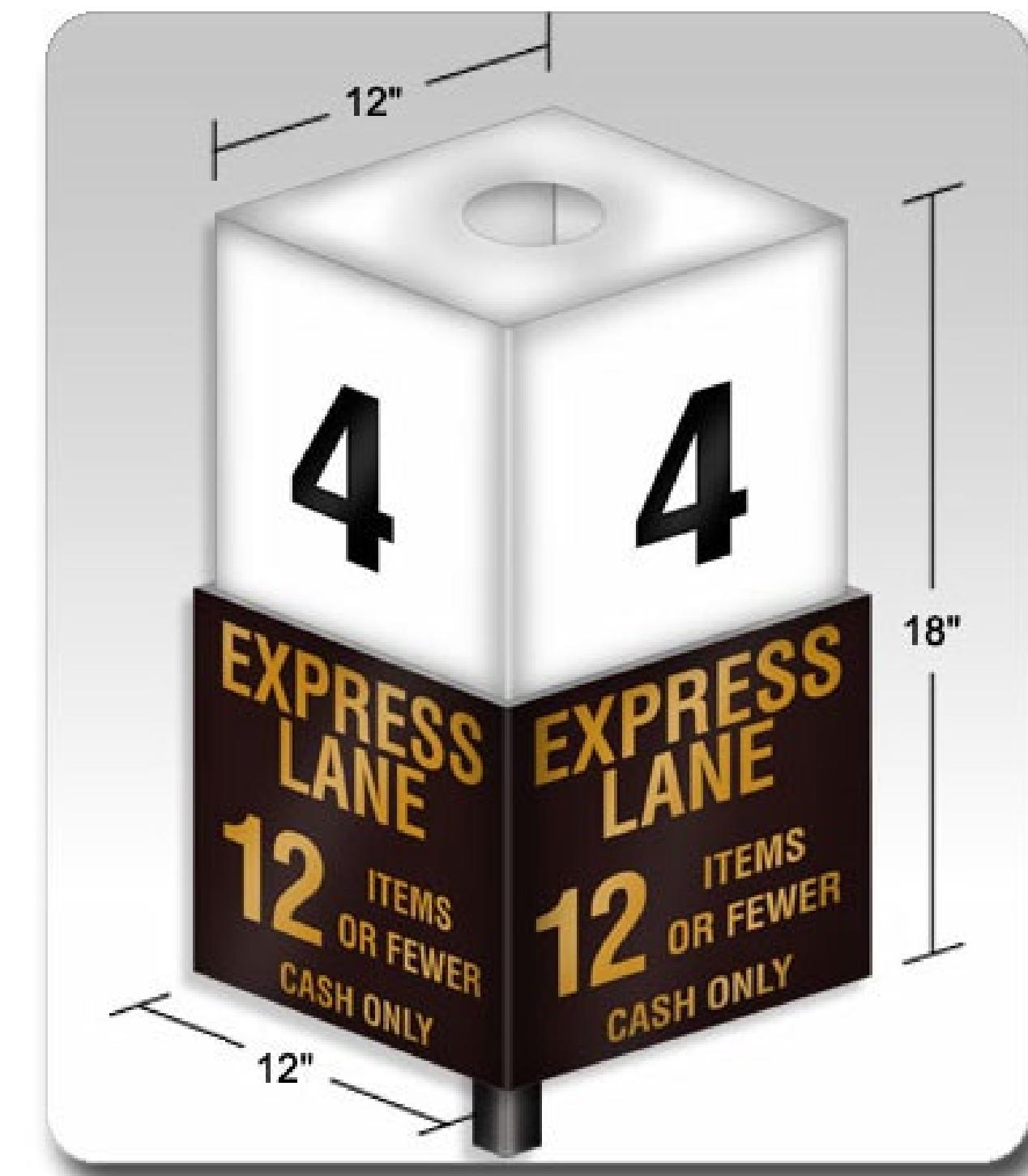
Woods Bagot , Design Technology Manager

- Woods Bagot, Design Technology Manager
- Registered Architect
- Dynamo user for many years
- 20 years in design computation (way back before dynamo/grasshopper, and GC was a thing)

Class Overview

LEARNING OBJECTIVE

- Understand simple Dynamo / Revit interaction through various selection and filtering methods
- Learn the power of dynamo through simple setups that are easy to use, easy to maintain, and easy to deploy
- Understand how to automate basic task in Revit
- Create graphs that are Dynamo Player ready



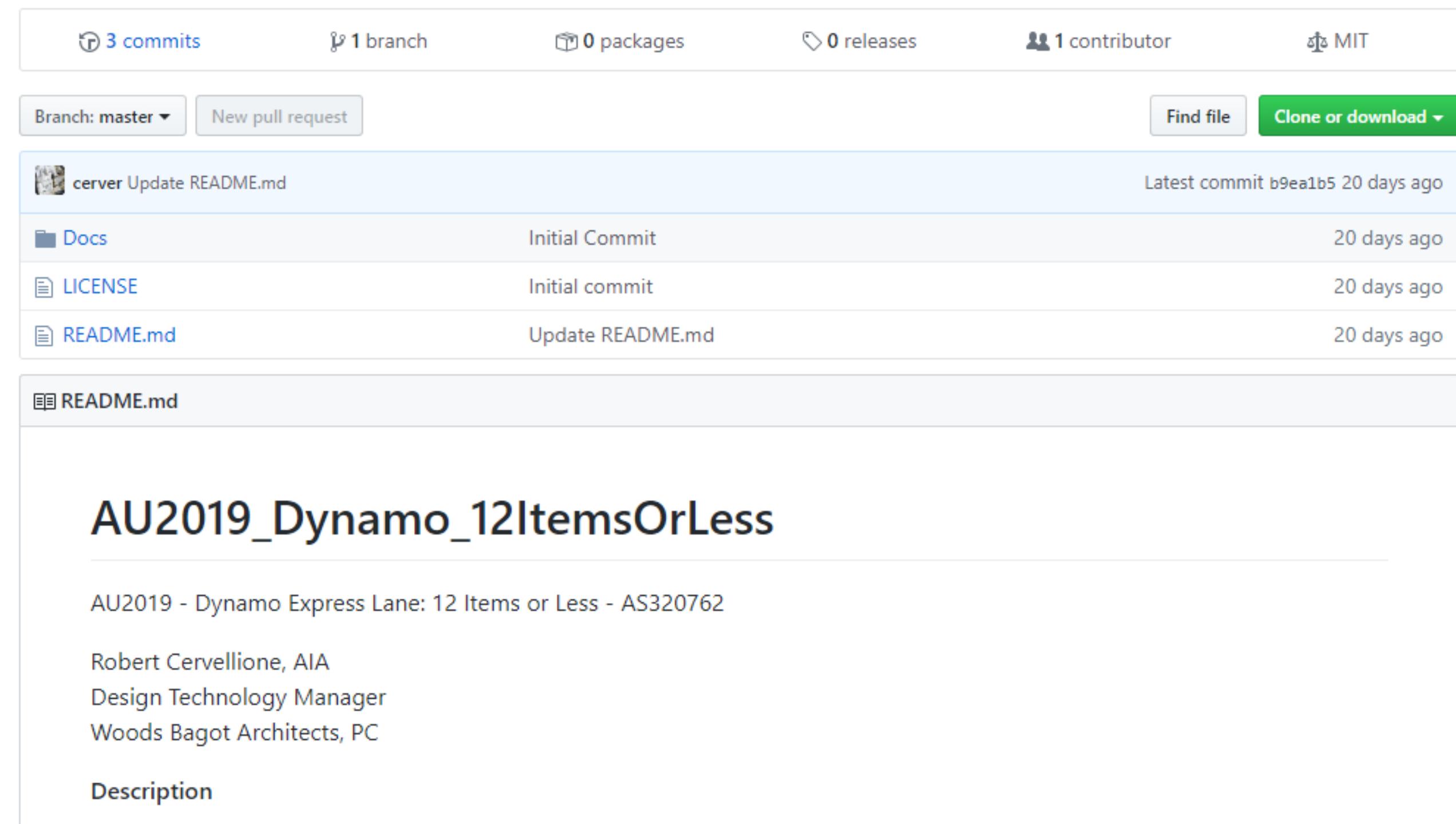
How many of you are using Dynamo Everyday

Session Material

ALL THE LATEST CLASS MATERIAL, PRESENTATIONS, AND EXAMPLE FILES ARE ON GITHUB HERE

https://github.com/cerver/AU2019_Dynamo_12ItemsOrLess

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3 commits 1 branch 0 packages 0 releases 1 contributor MIT

Branch: master New pull request Find file Clone or download

File	Commit	Time
README.md	Update README.md	Latest commit b9ea1b5 20 days ago
Docs	Initial Commit	20 days ago
LICENSE	Initial commit	20 days ago
README.md	Update README.md	20 days ago

README.md

AU2019_Dynamo_12ItemsOrLess

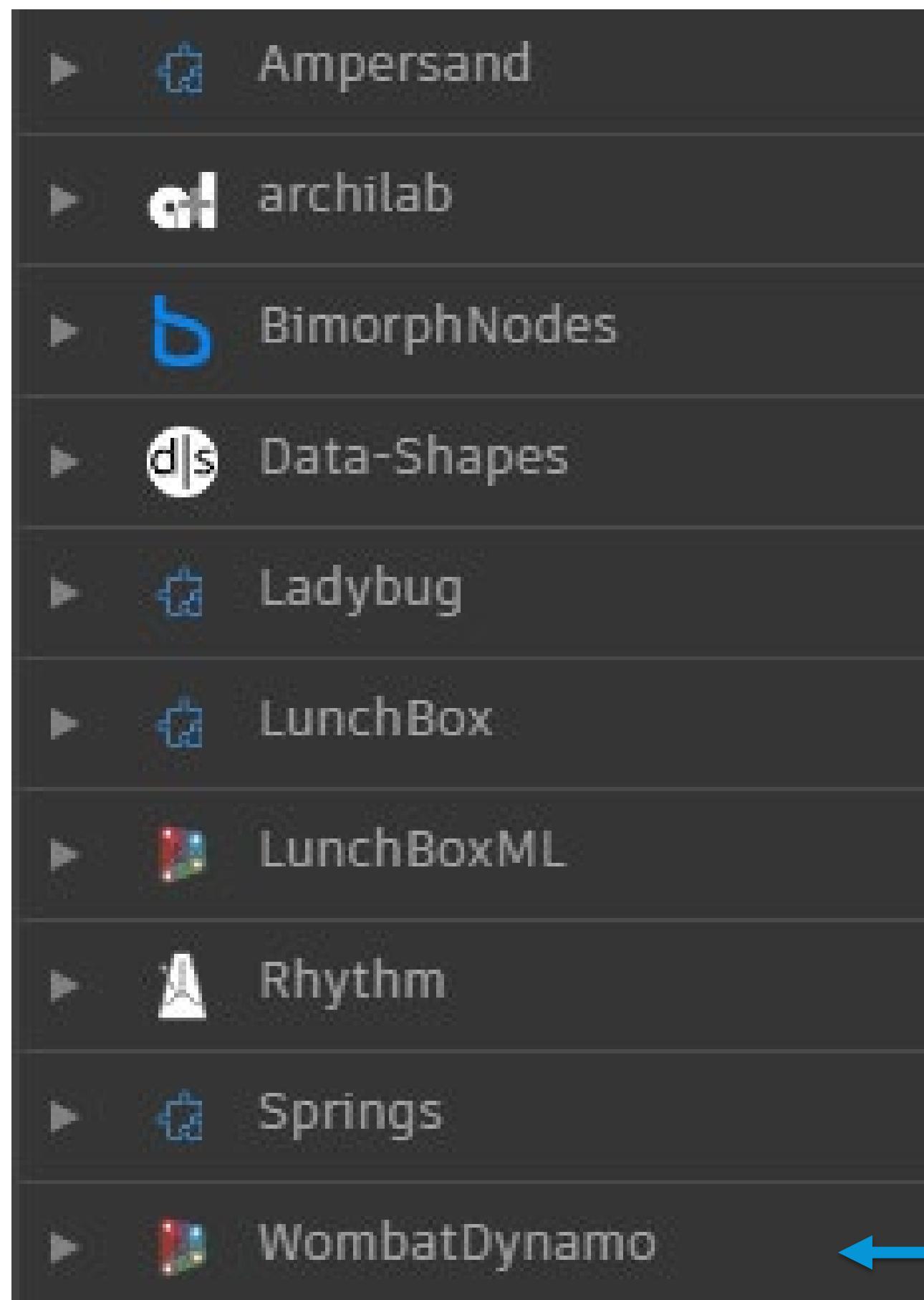
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Robert Cervellione, AIA
Design Technology Manager
Woods Bagot Architects, PC

Description

Packages

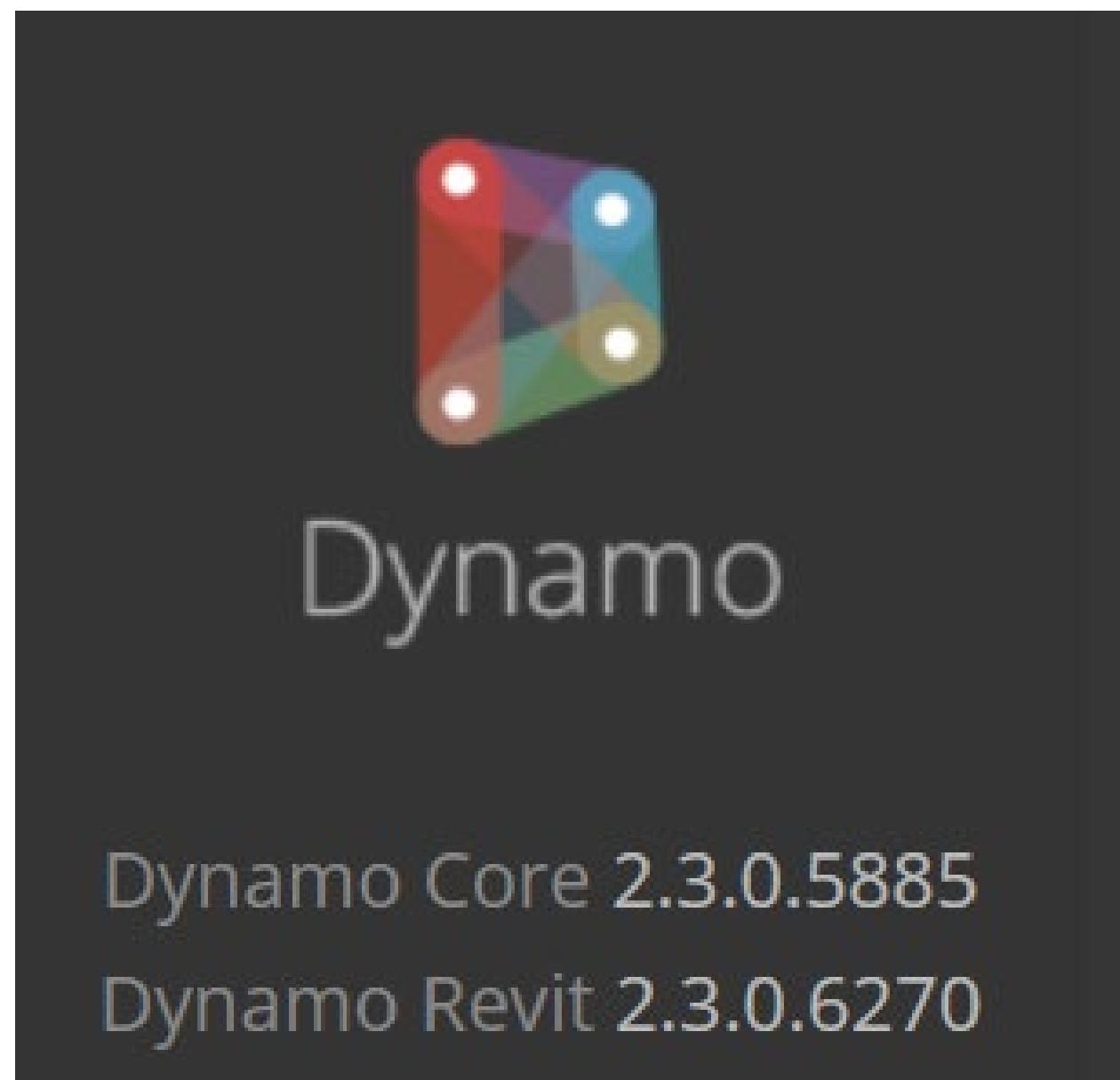
SOME OF THE EXAMPLES USE ADDITIONAL PACKAGES. HERE ARE SOME OF MY FAVORITE.



Woods Bagot Nodes

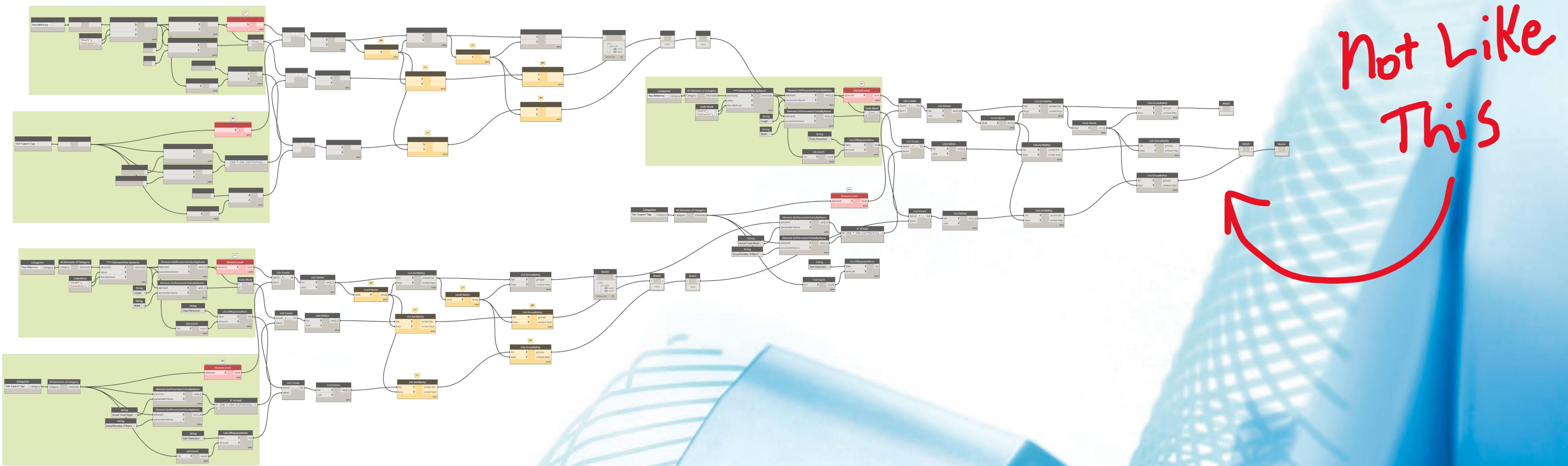
Dynamo/Revit Versions

THIS PRESENTATION IS USING REVIT 2020.2 AND DYNAMO 2.3.0.5885



Dynamo does not have to be complex

Dynamo can be used to create simple definition that are design to be quick and friendly.



BIG PICTURE

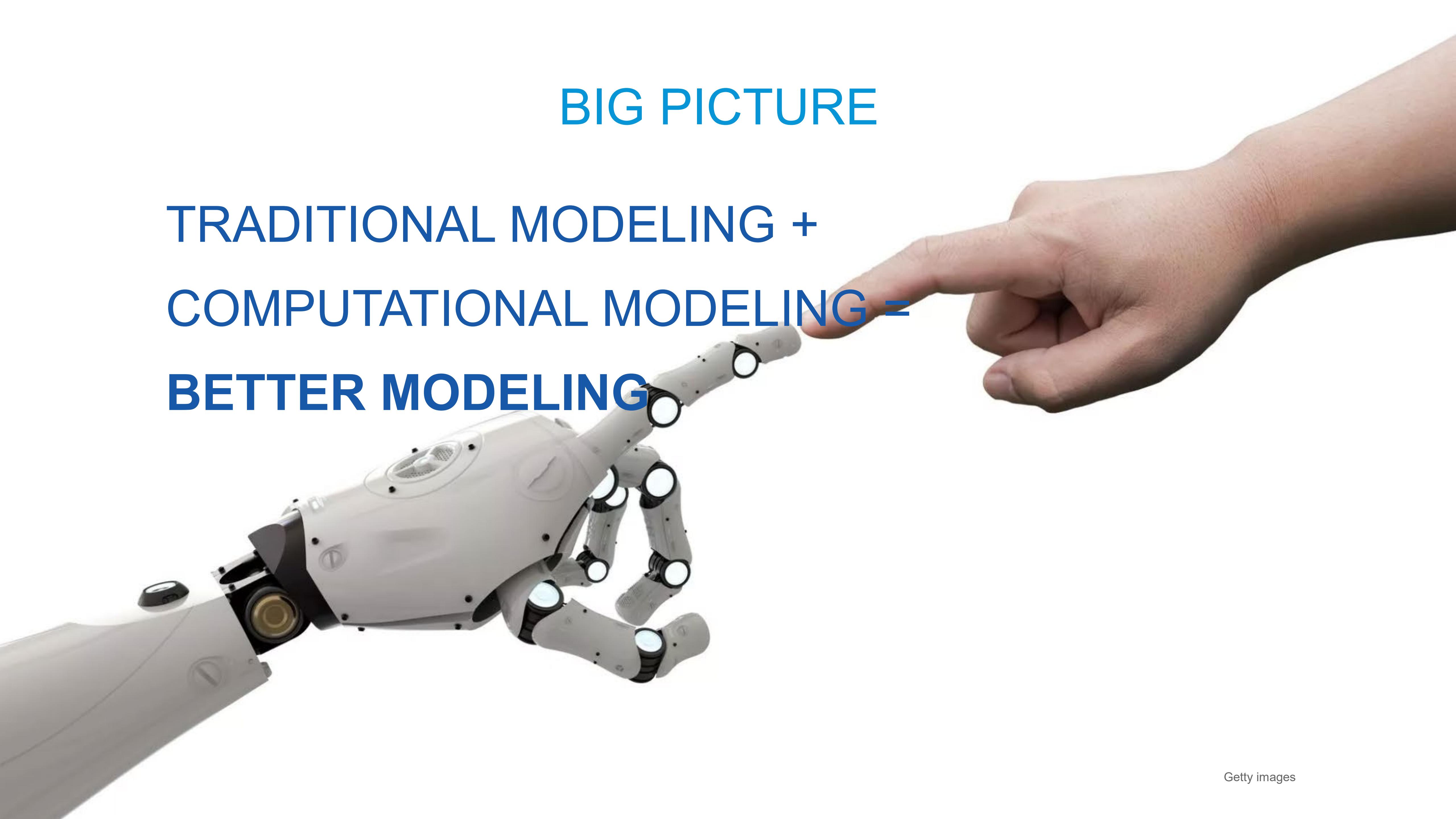
FOSTER A CULTURE OF COMPUTATIONAL THINKING

How simple definitions foster use (gateway drug)

- Small, Useful and Digestible
- Time saving and powerful
- Enable people to become comfortable with interacting with data in a computational way.
- Show the power that both traditional modeling and computational modeling have when they work together.

BIG PICTURE

TRADITIONAL MODELING +
COMPUTATIONAL MODELING =
BETTER MODELING



BASIC DATA TYPES

DYNAMO THINGS

- Geometry (Solid, Curve, Surface, Point)
- Vectors
- Planes
- Coordinate Systems (3 planes and 3 vectors)
- Strings (text)
- Double (decimals)
- Int (integer)

REVIT THINGS

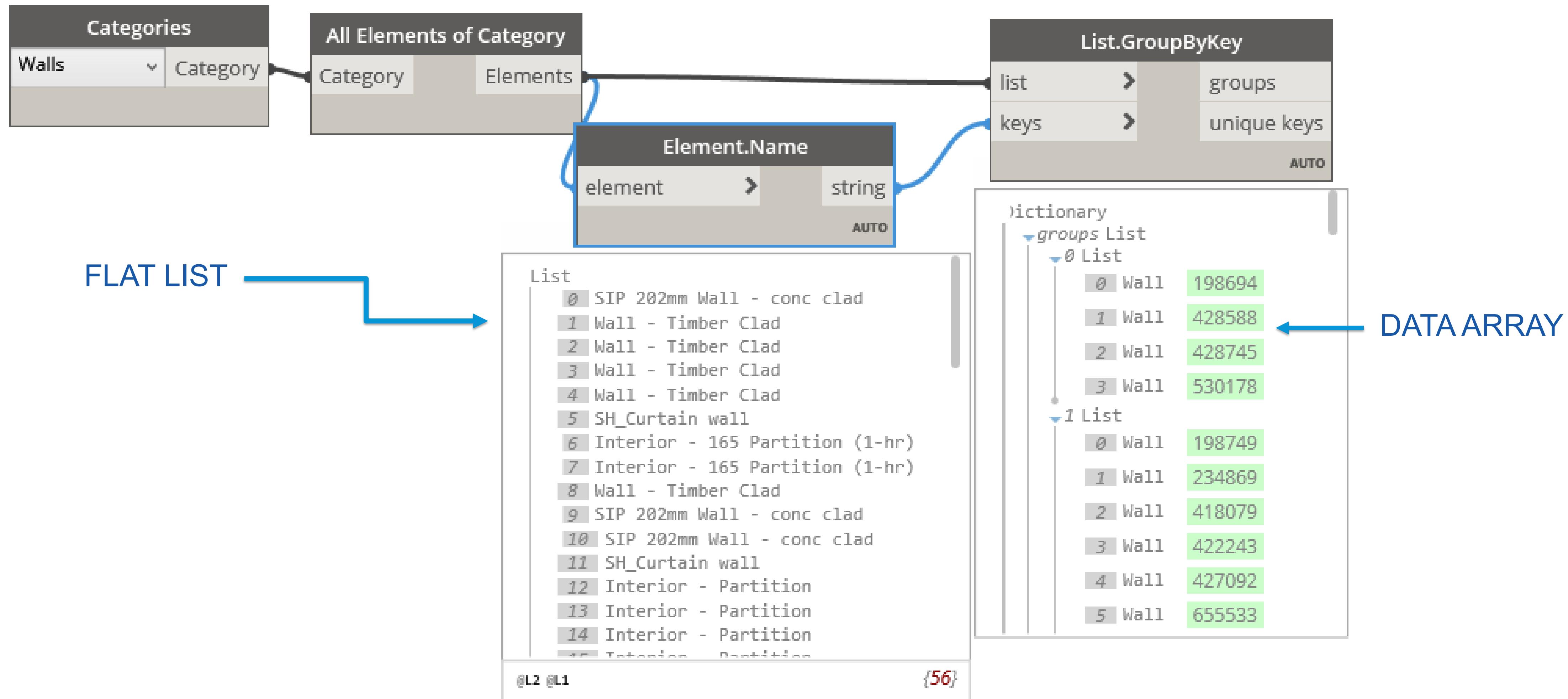
- Elements
- Parameters
- Global Parameters

Basic Mappings

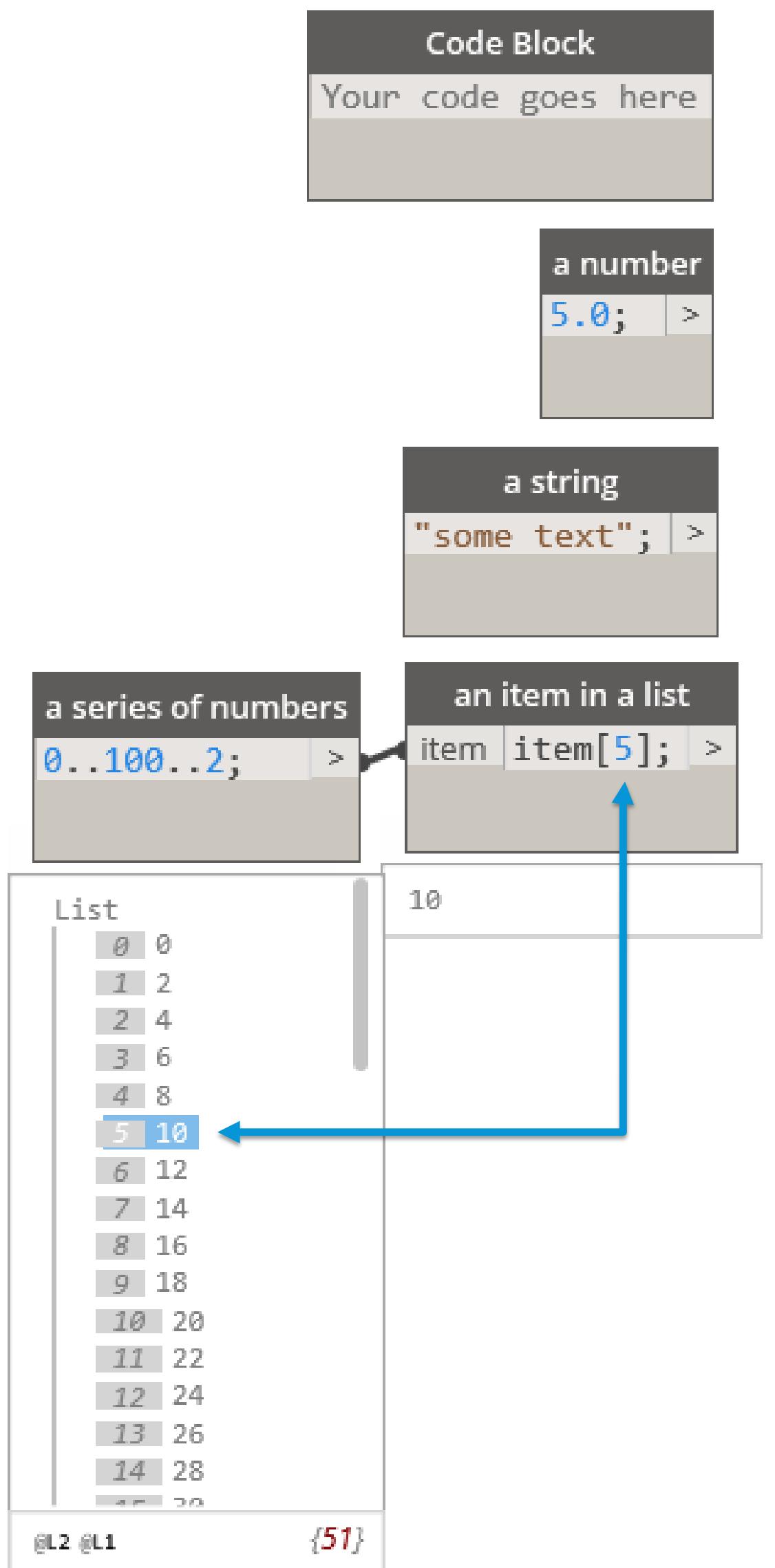
DYNAMO THINGS <-> REVIT THINGS

- Surface <-> Element Face
- Solid <-> Element (walls roofs floors...)
- Curves <-> Model Lines, drafting lines, sketch lines, area lines

Data Structures



Code Blocks



Categories of Scripts

SOME EXAMPLES OF SCRIPTS

- **QA/QC Scripts:**

- Selection of masking regions
- Find Cad Drawings
- Check warnings

- **Basic Automation**

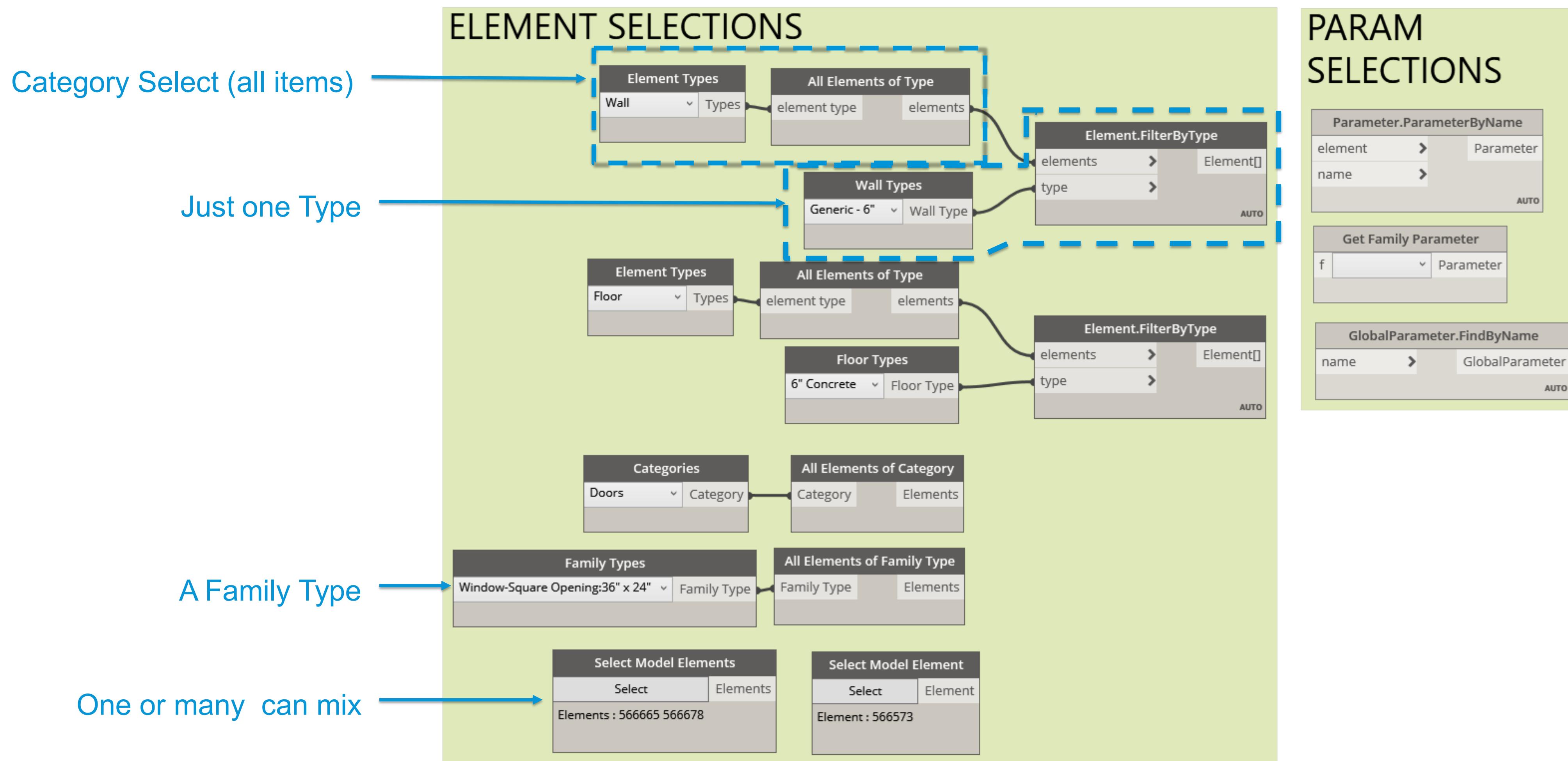
- Change Line types
- Rotate objects
- Place objects
- Control Visibility
- Modify parameters
- Assign Unique Room Numbers

- **Sheets/Views/Schedules**

- Duplicate Sheet
- Renumber Drawings
- Export to excel
- Read from excel

Selection

SELECTION OF ELEMENTS IS THE ONE OF THE FIRST STEPS , WE NEED TO GET THE DATA



Selection

TIP FOR MULTIPLE ITEM SELECTIONS

The selection prefers “window selection” so use isolate element/category for this

Video here:

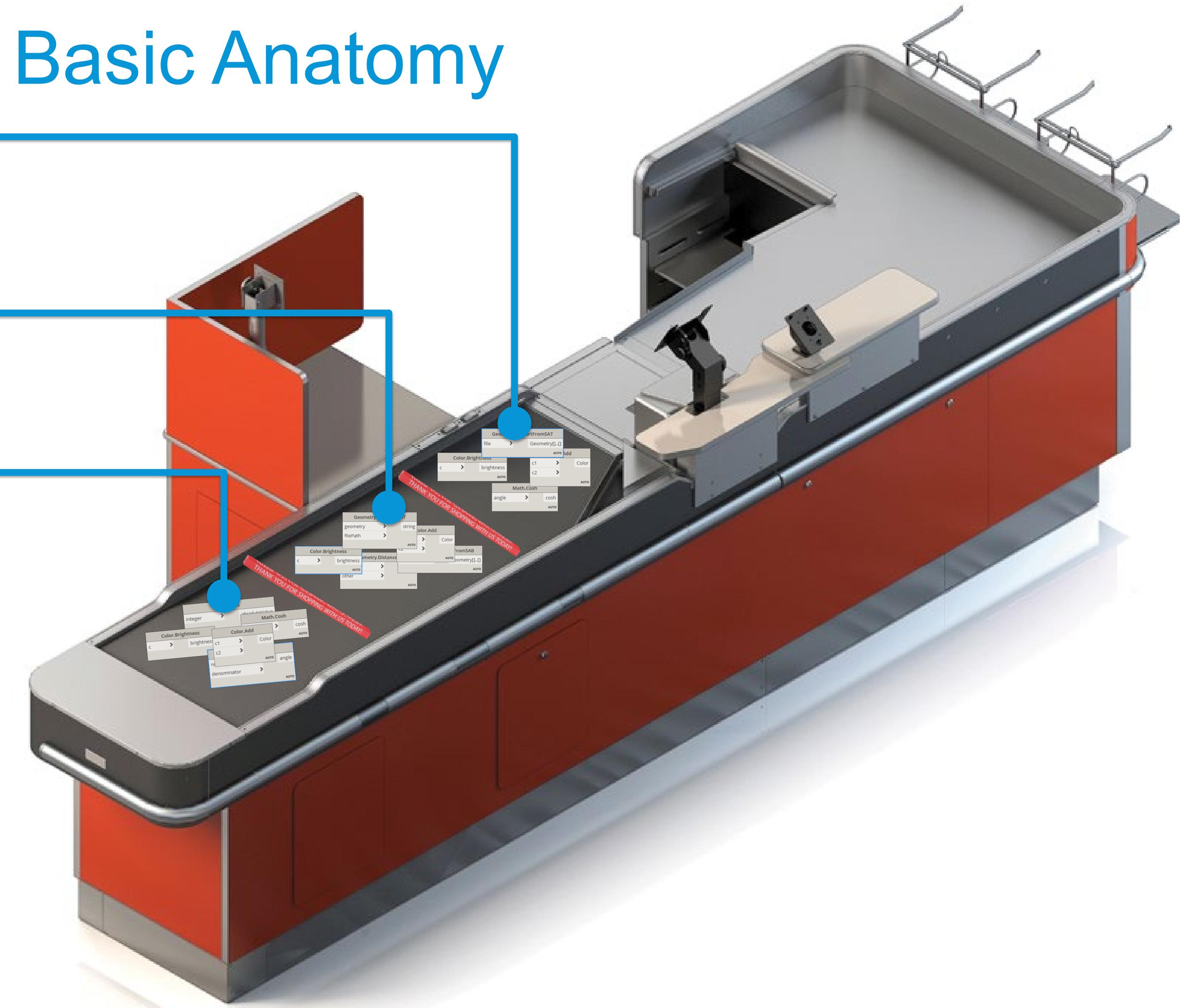
https://github.com/cerver/AU2019_Dynamo_12ItemsOrLess/tree/master/Pres/Content

Basic Anatomy

SELECTION ITEMS

ACTION ITEMS

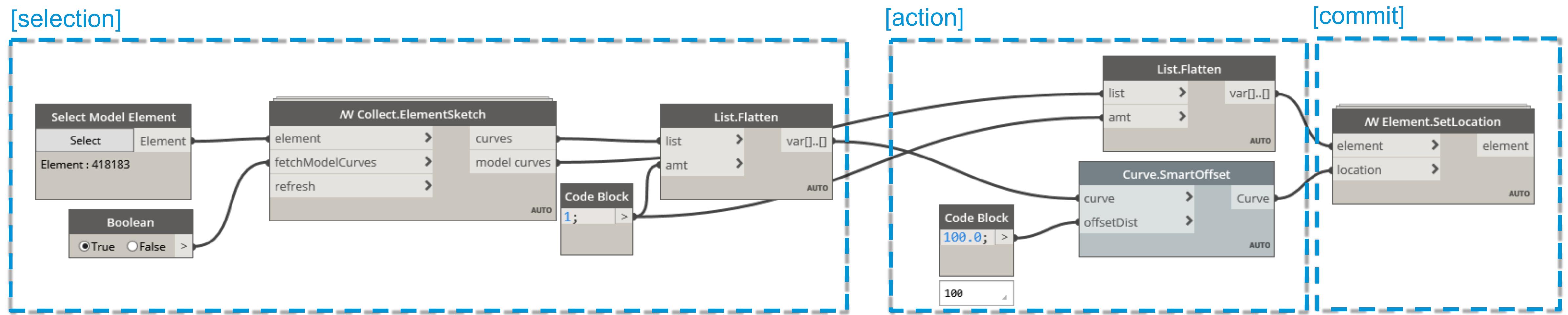
COMMIT ITEMS



On to the show...some examples

Examples

SLAB OFFSET

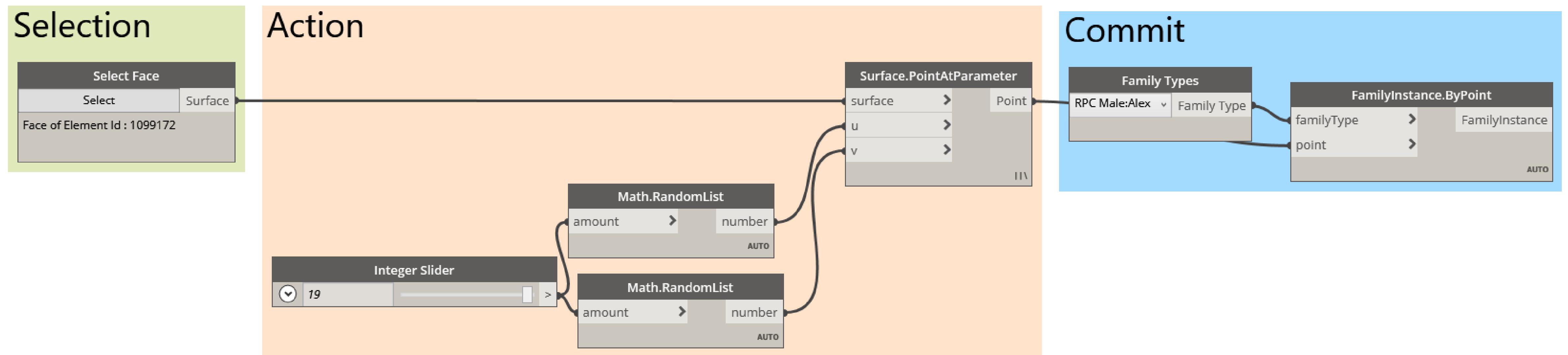


Video here:

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Examples

PLACE FAMILIES ON A SURFACE (FACE)



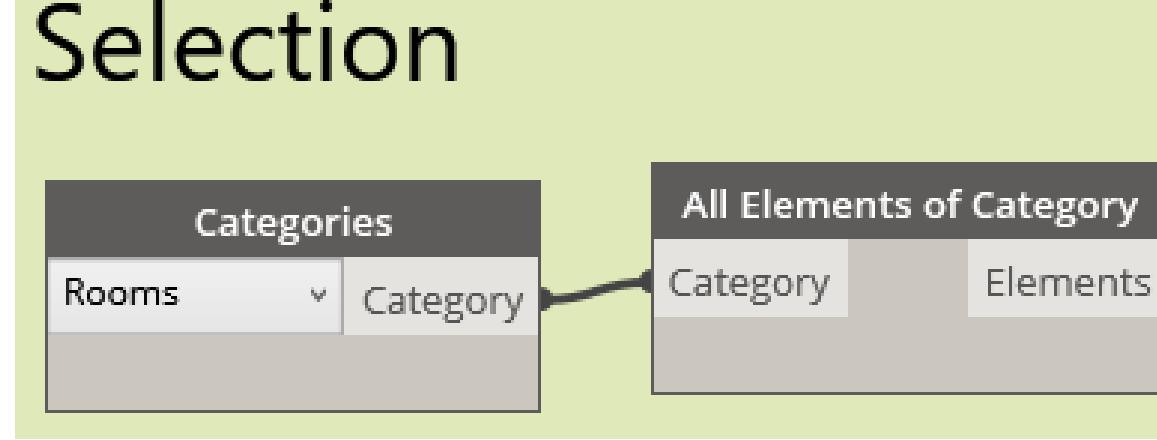
Video here:

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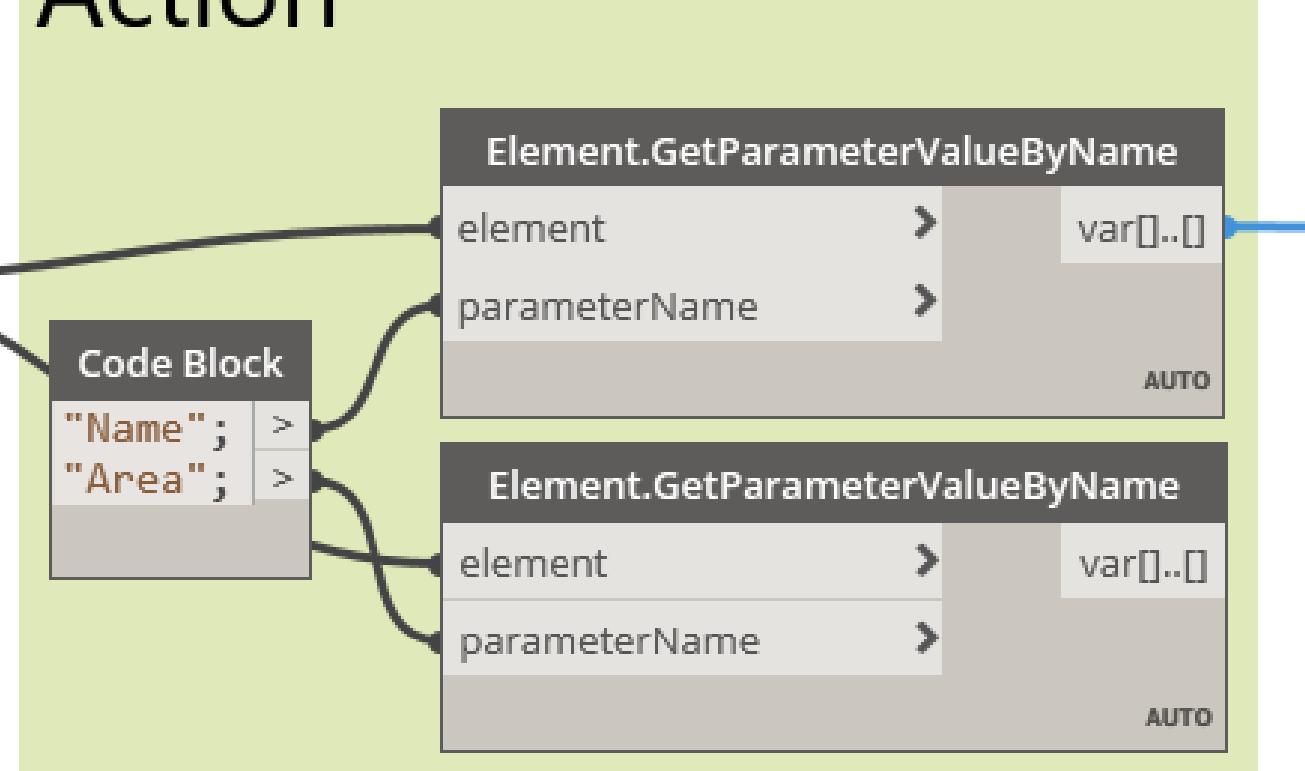
Examples

SEND DATA TO EXCEL

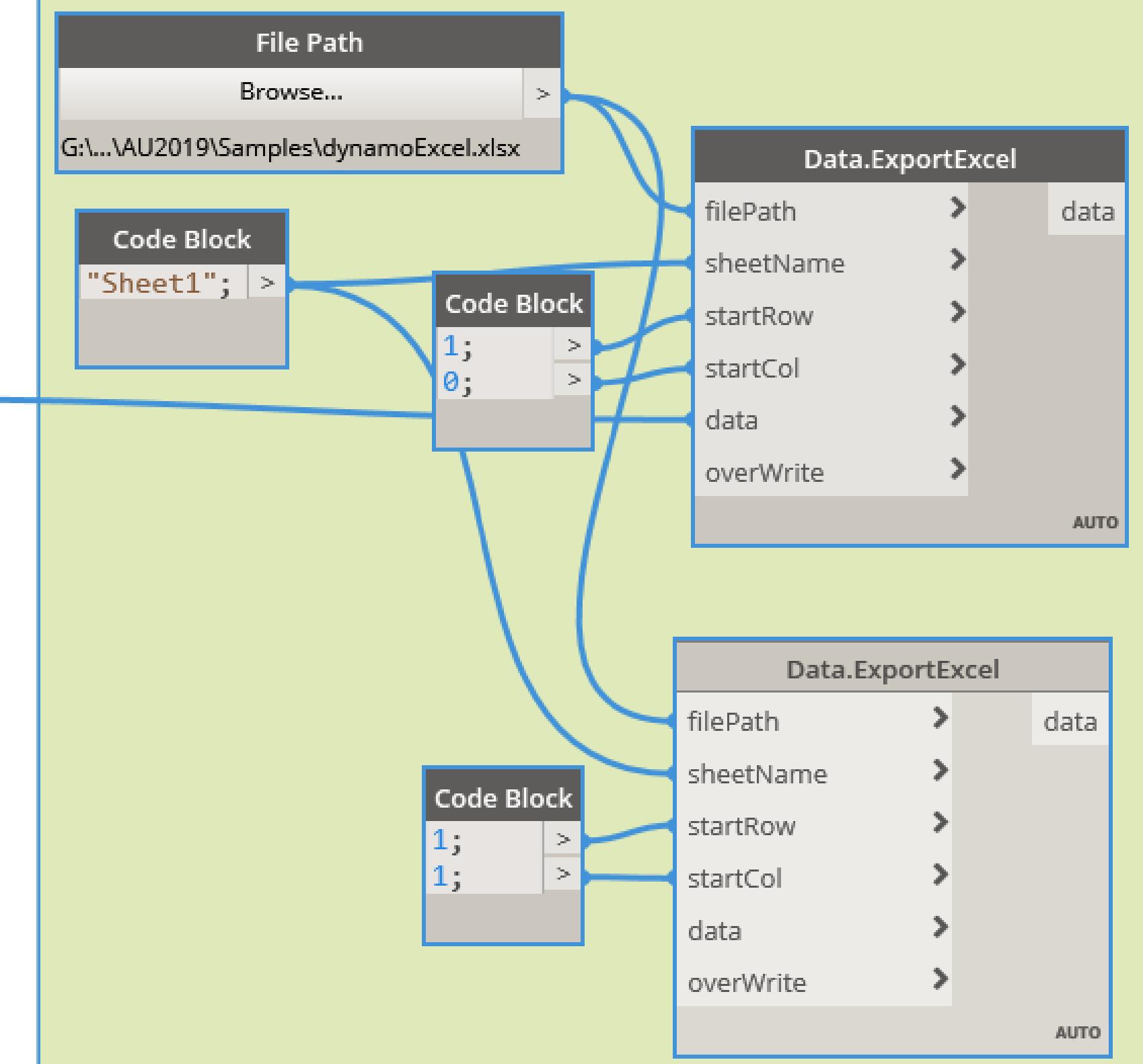
Selection



Action



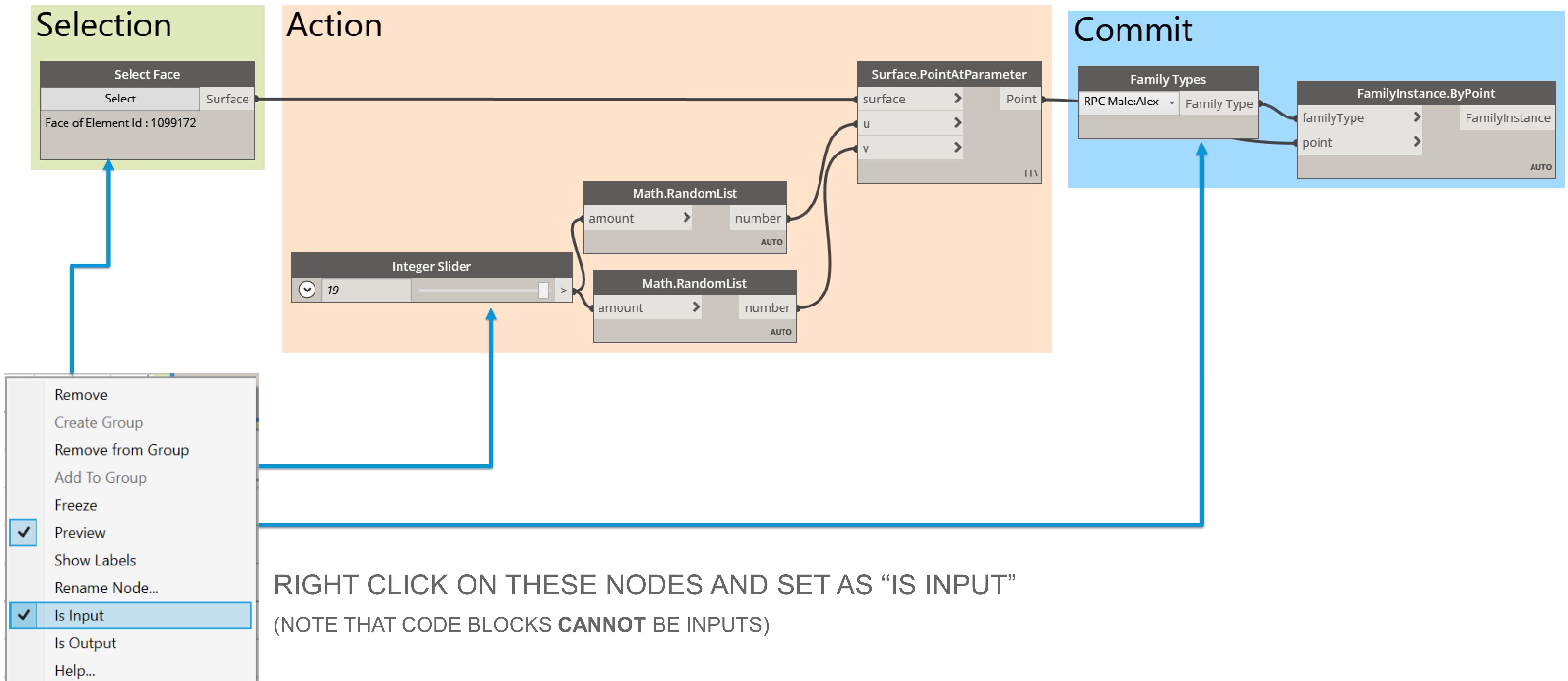
Commit



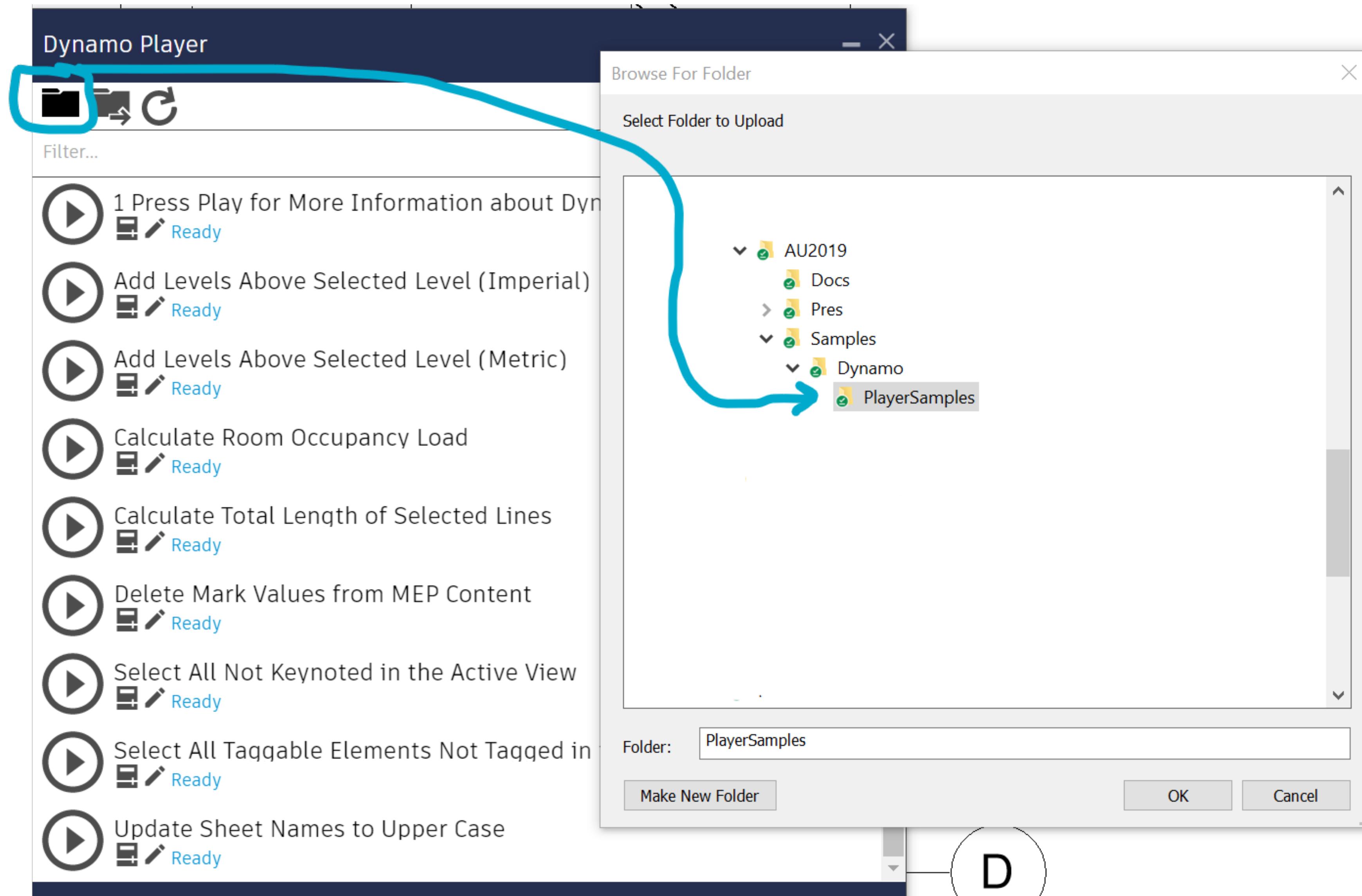
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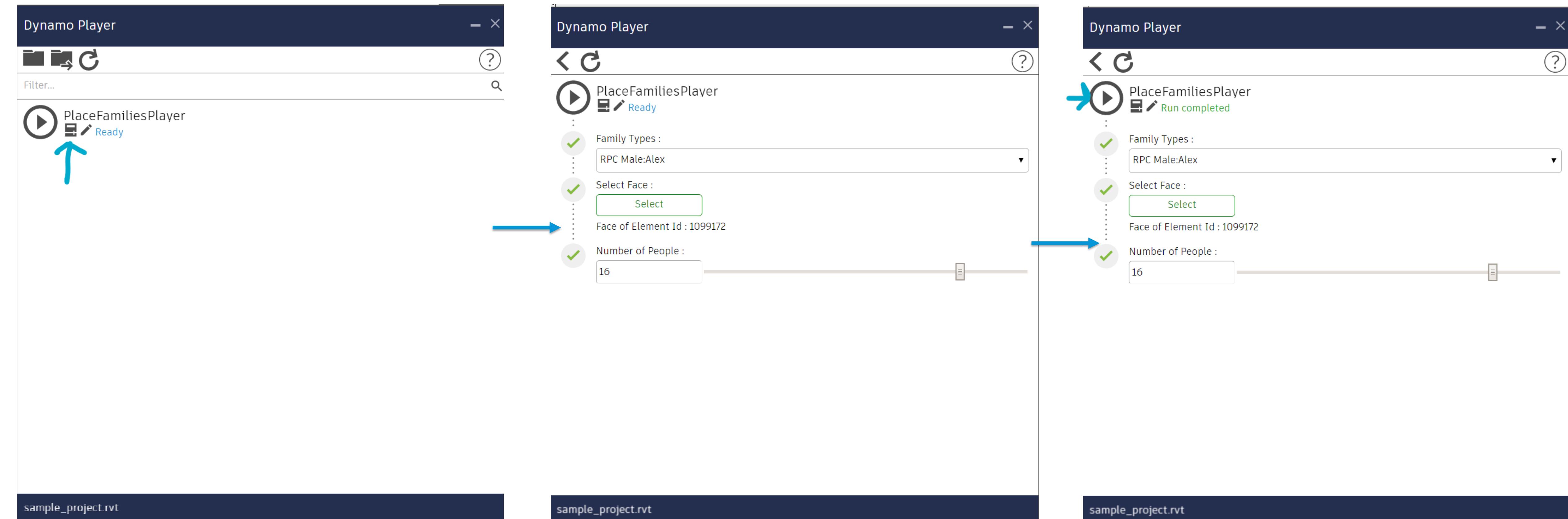
Dynamo Player



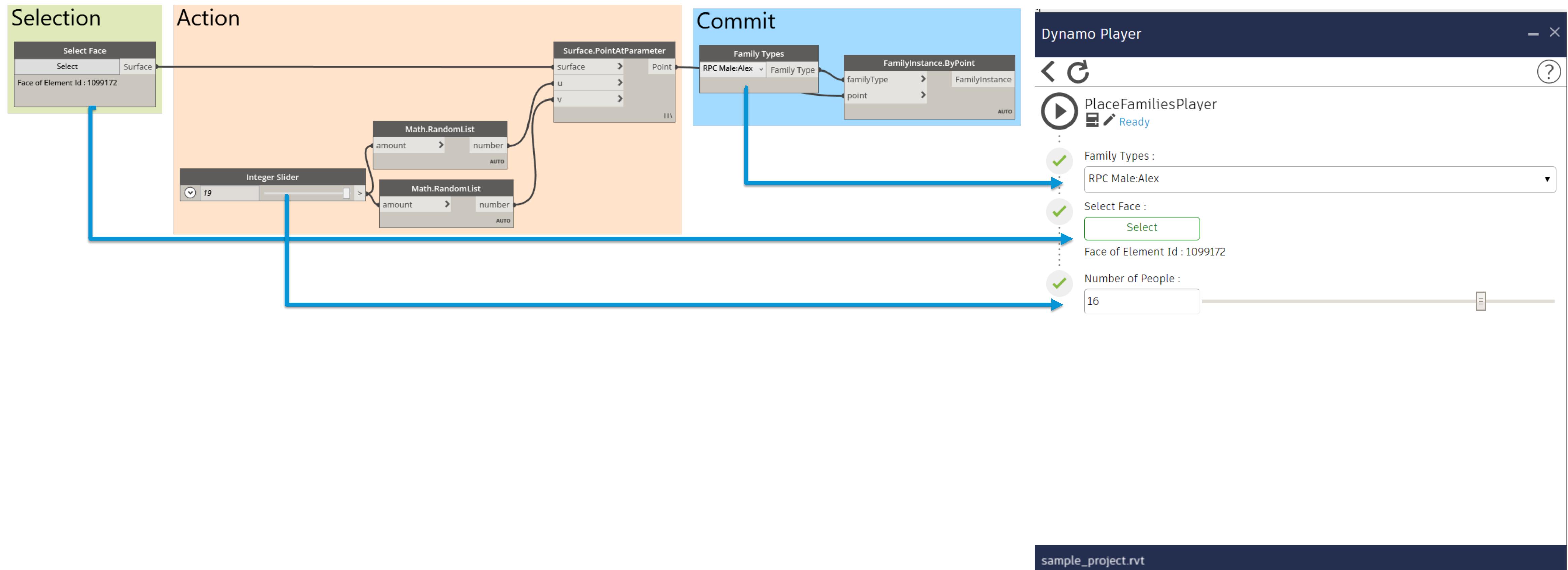
Dynamo Player



Dynamo Player

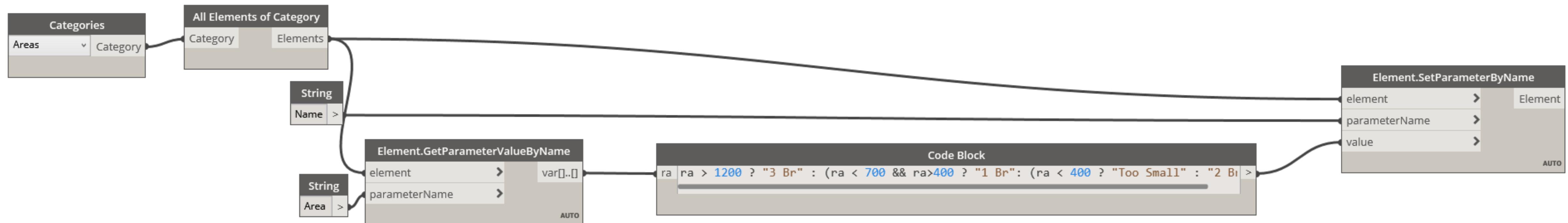


Dynamo Player



Examples

AUTO ADJUST AREAS



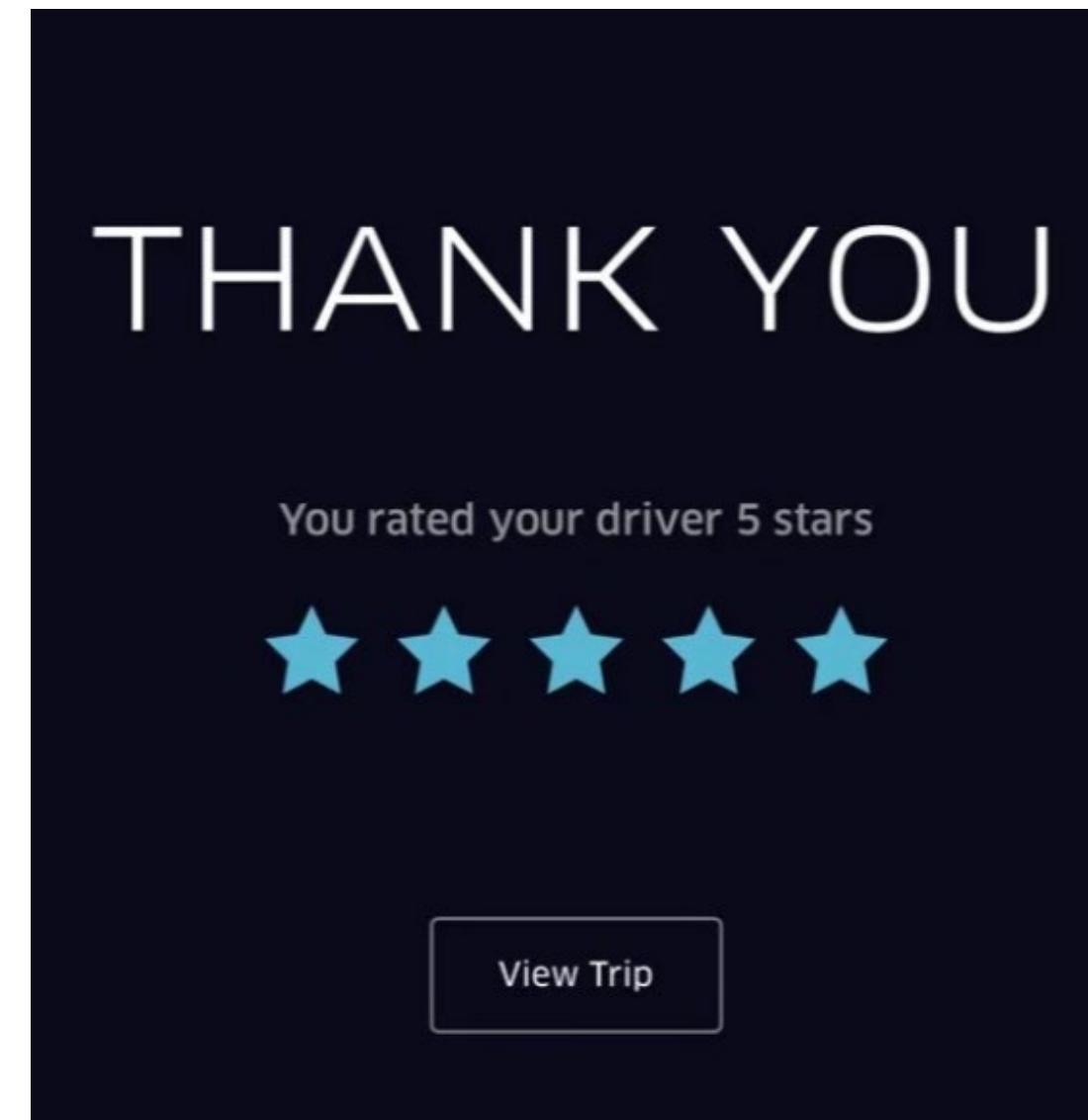
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Live Demo Time

- FYI: This is typically when things go wrong in the presentation

Questions?



Please remember to fill out the class survey it can be found on the **AU App** or **AU Online**.

It's Very import we hear from you
Enjoy the rest of AU!!!