

AIA25

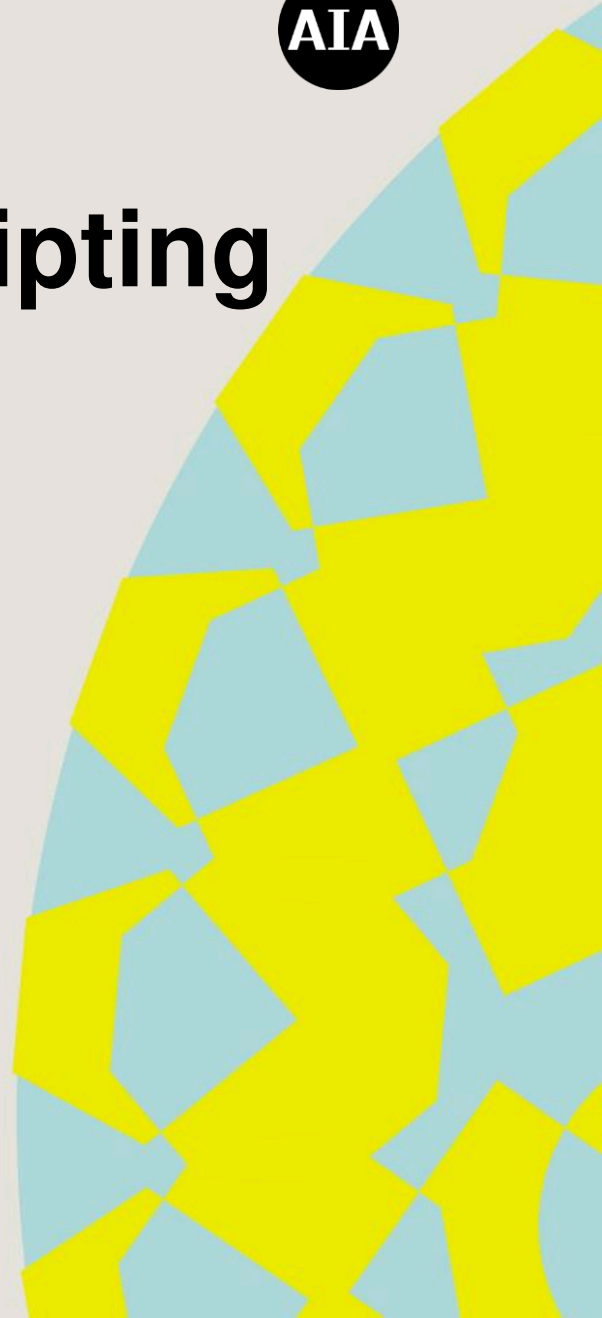
AIA

Energy Modeling on Autopilot: Scripting Efficient Architectural Designs

WE119

Wednesday, June 4
11:00am - 12:00pm

Learning Units 1 HSW/RIBA/LU



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Questions related to specific products and services may be addressed at the conclusion of this presentation.

Acknowledgements/Credits

[Optional slide]

Speakers List

- Enrique Galicia Tovar

With 19 years in AECO as an Architect and Systems Engineer, I've dedicated my career to bridging the gap between innovation and practical application. Through consulting and AI-driven development, I focus on creating solutions that enhance workflows, optimize processes, and drive efficiency across the industry



Director of
AI and
Innovation

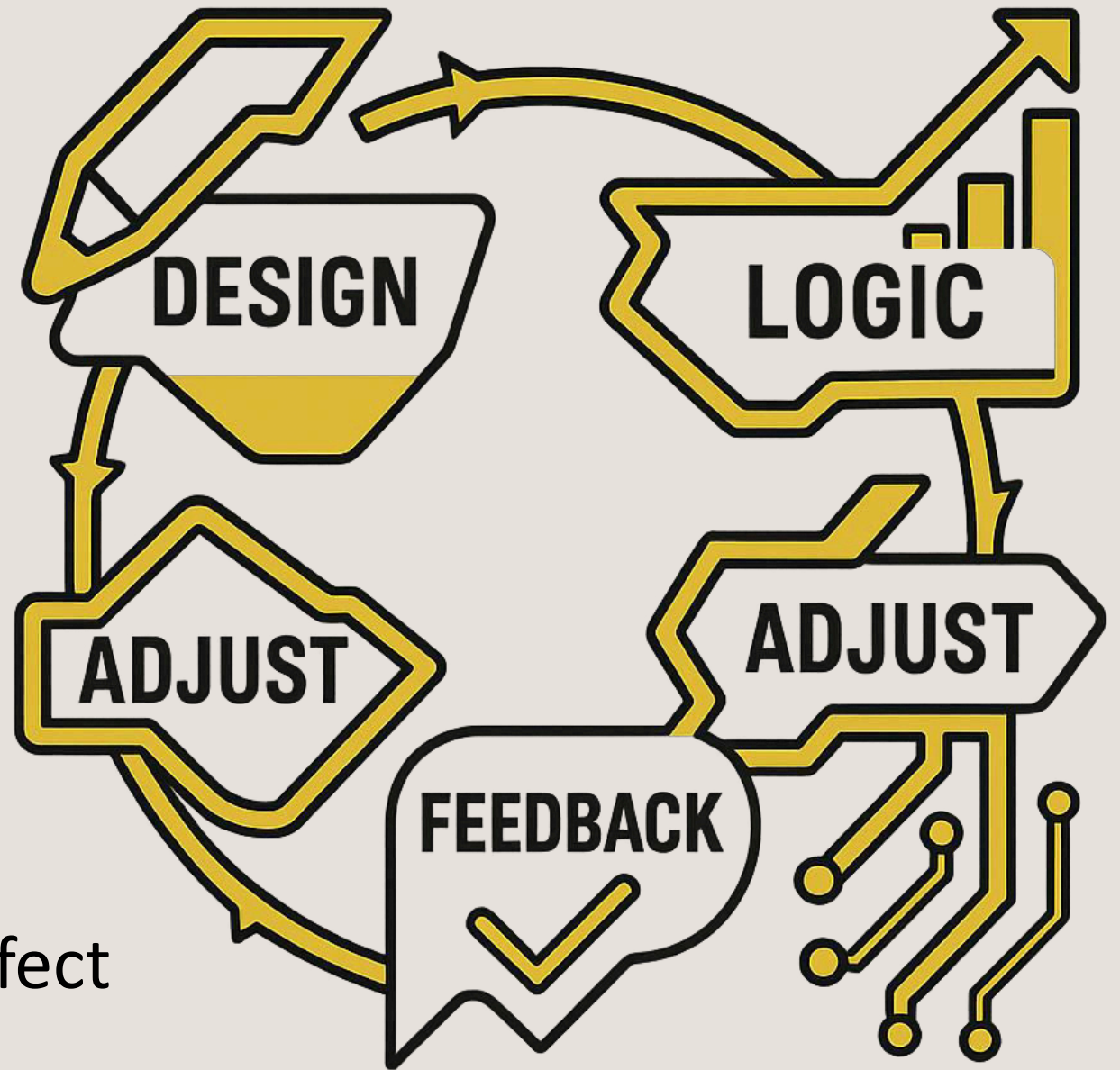


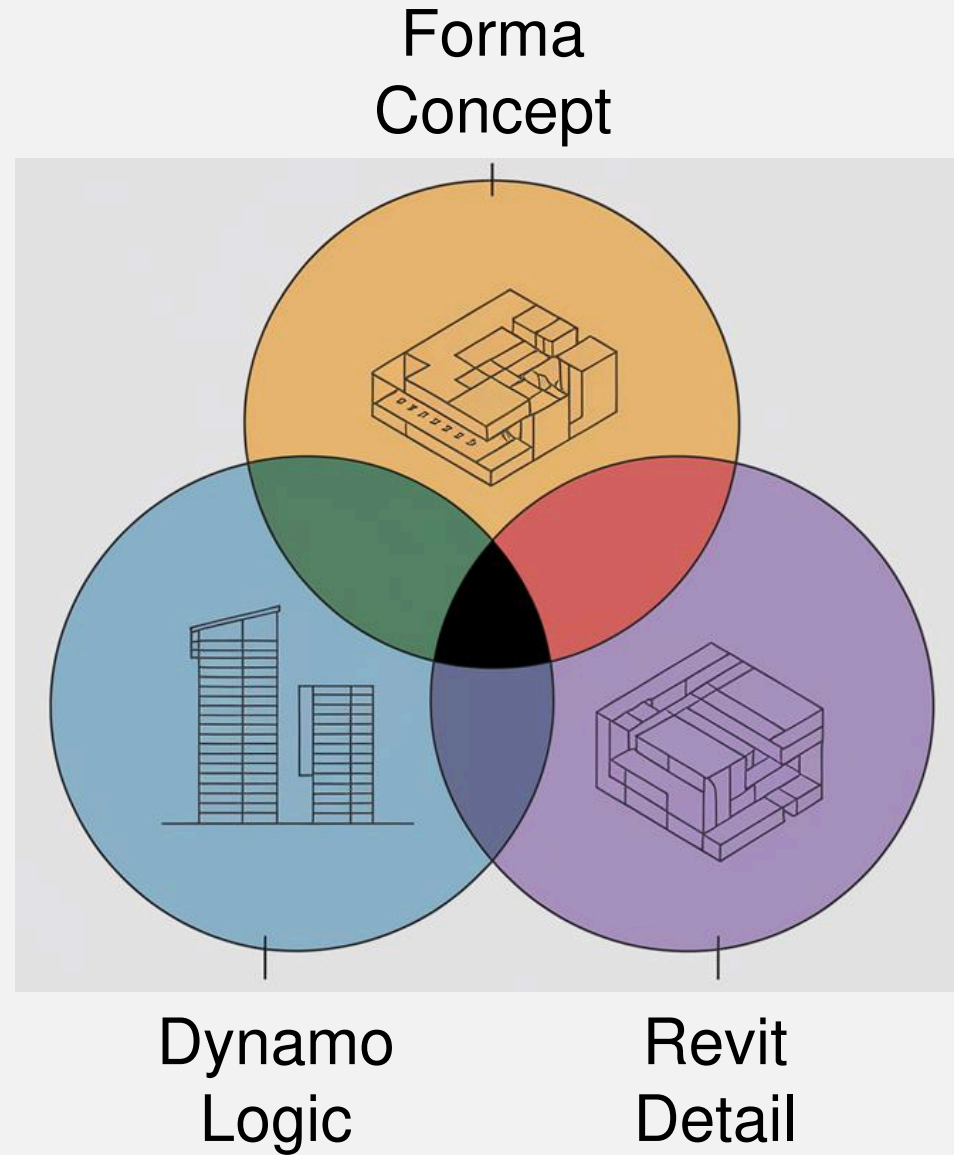
Course / Learning Objectives

1. Automate energy modeling with scripts
2. Integrate tools for real-time feedback
3. Boost performance, cut energy costs
4. Apply automation for energy efficiency



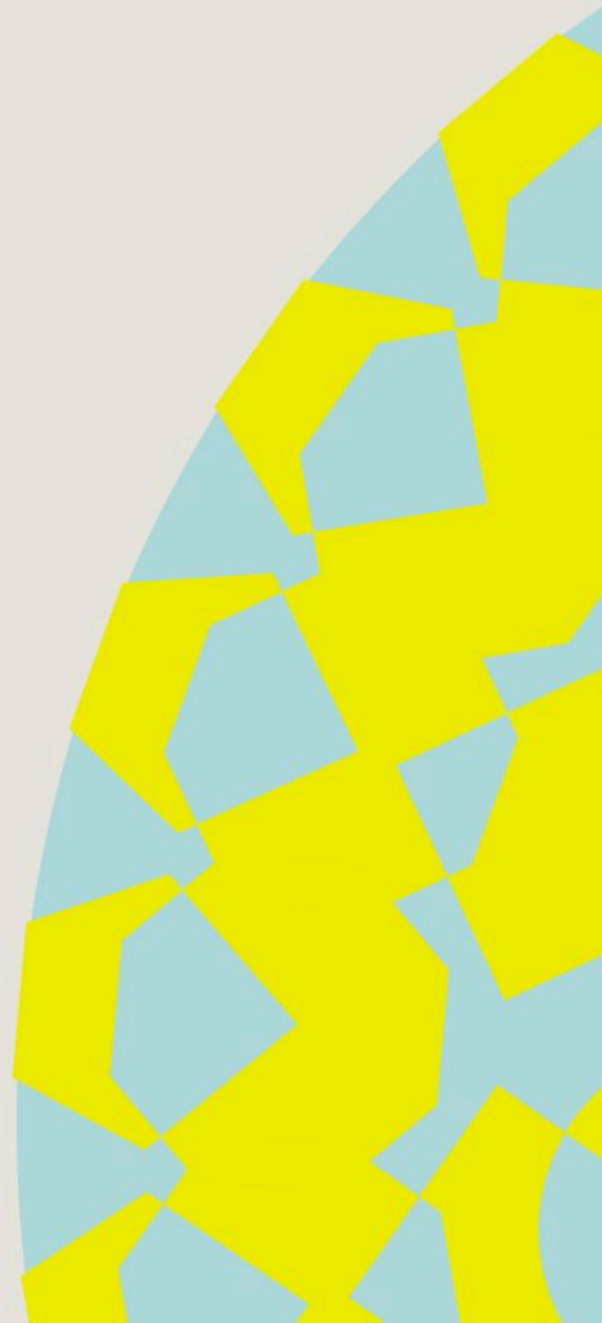
No code, Just cause and effect

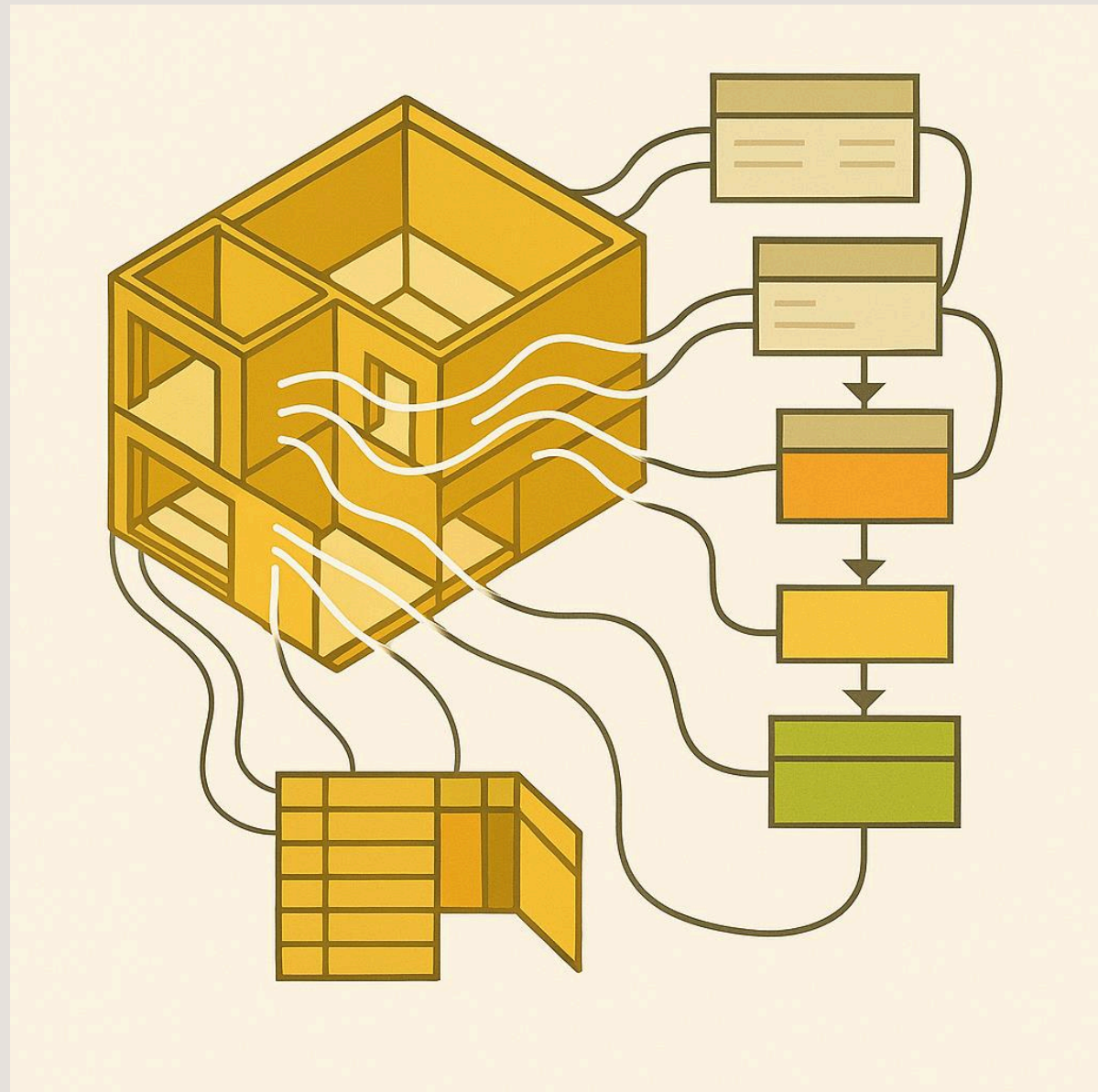






If you can do it, it can be programmed

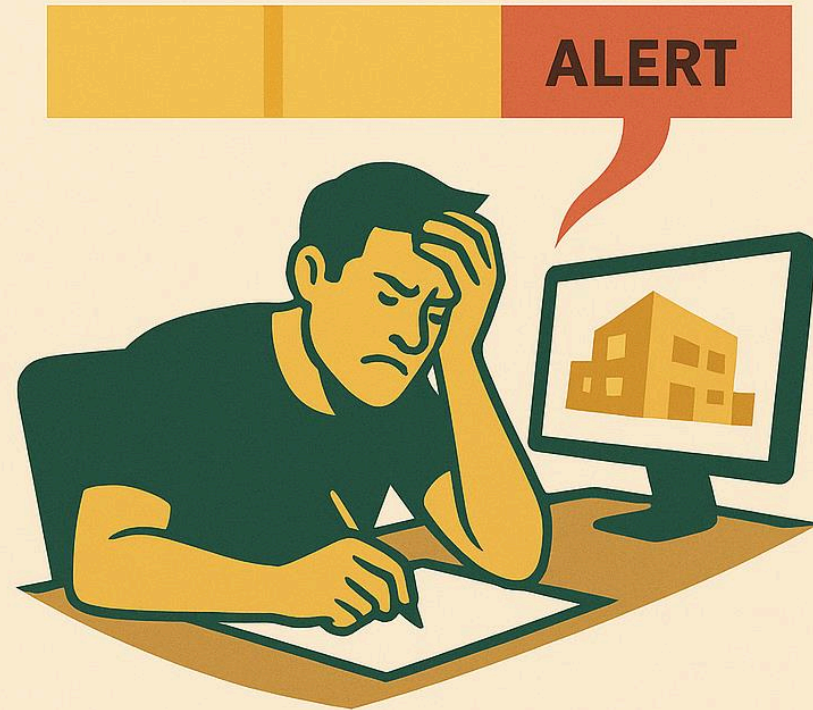




A script, reads, reacts and reshapes

REACTIVE

SCRIPT TRIGGERED



**FROM REACTIVE
TO PREDICTIVE**

Catch it before it costs you.



Things you can watch for Energy Models

Materials

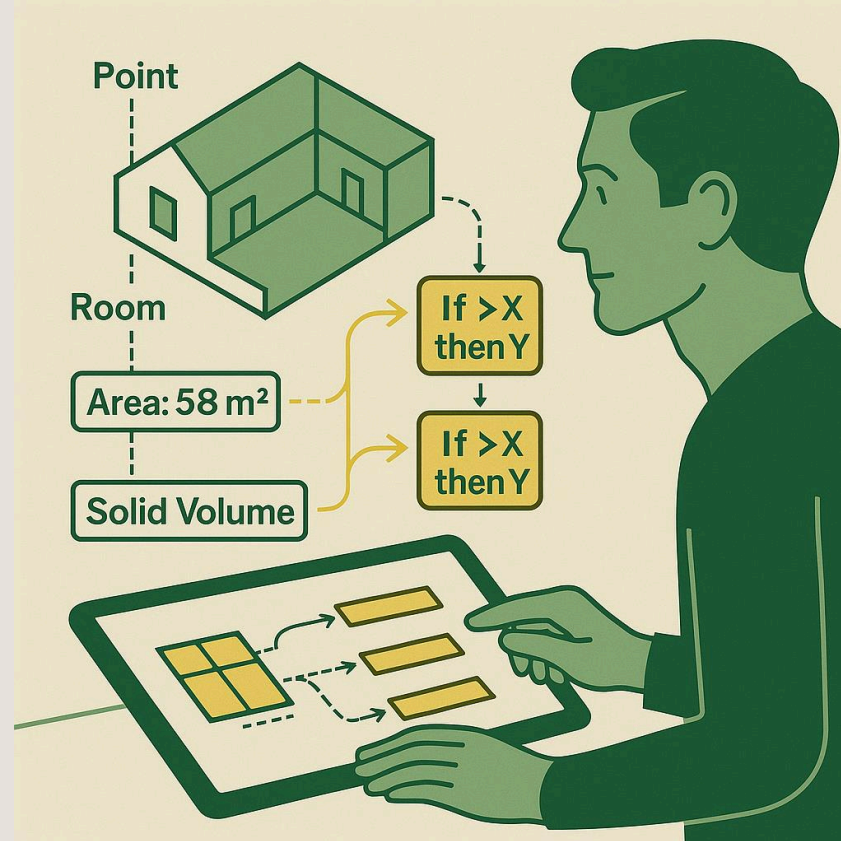
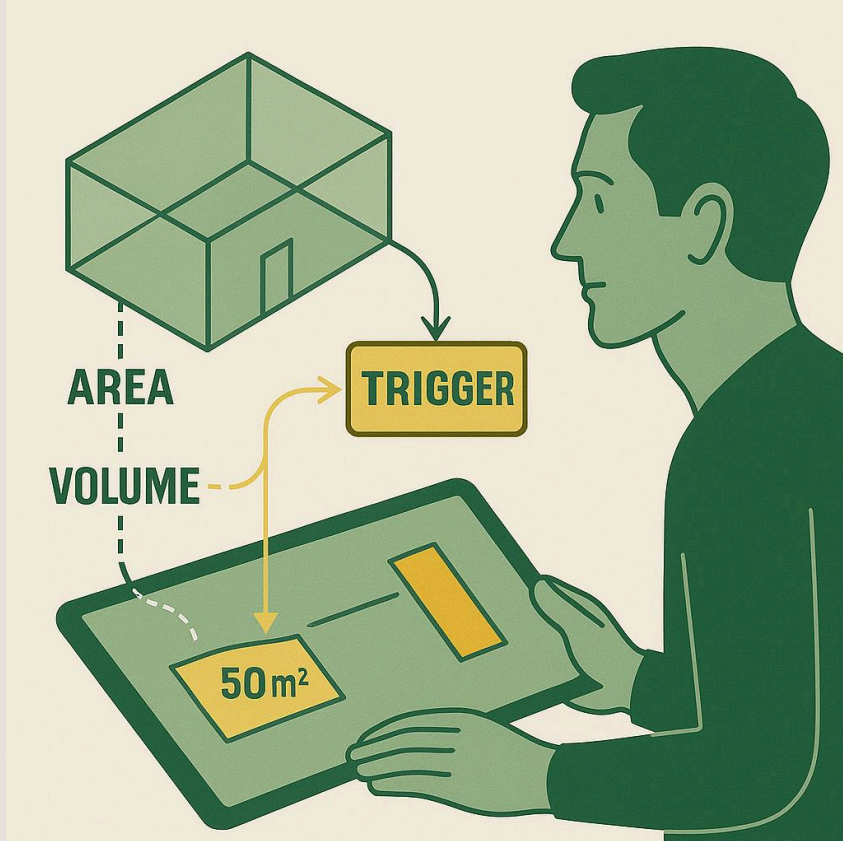
- Location
- Orientation
- Building Type
- Mass Geometry
- Spaces
- Zones

Design

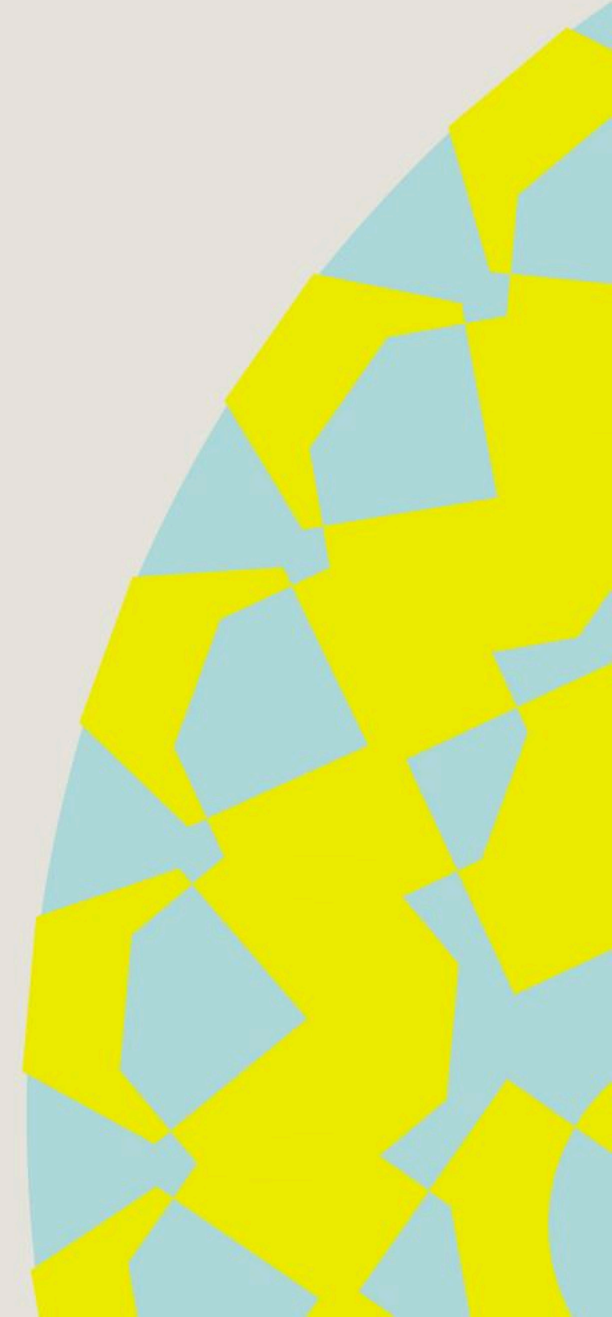
Development

- WWR
- Glazing U-Value
- Wall R-Value
- Roof R-Value
- Floor R-Value
- Infiltration
- Occupancy
- Lighting Load
- Equipment Load
- HVAC Zones
- Zone Volume
- Room Bounding

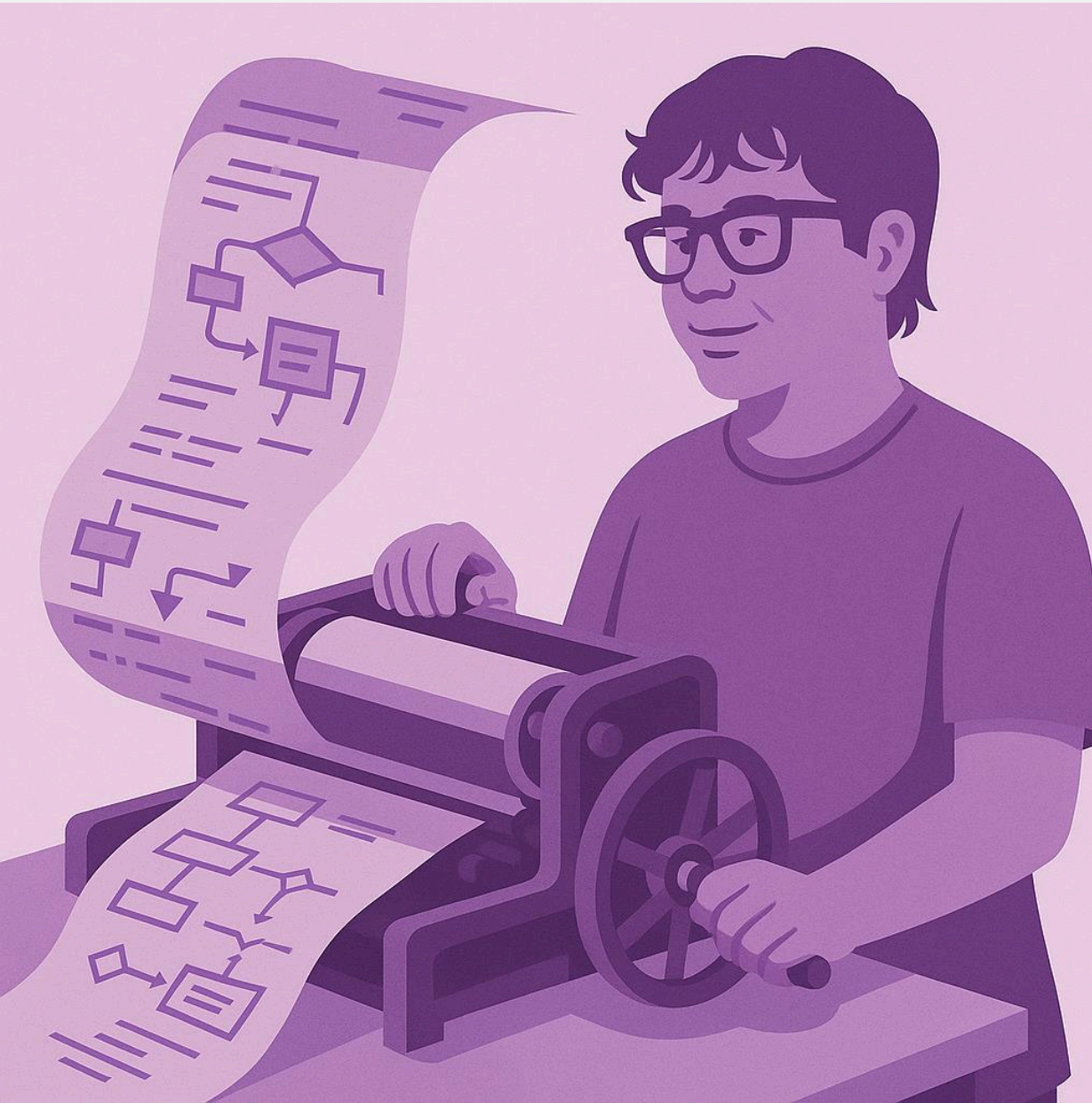




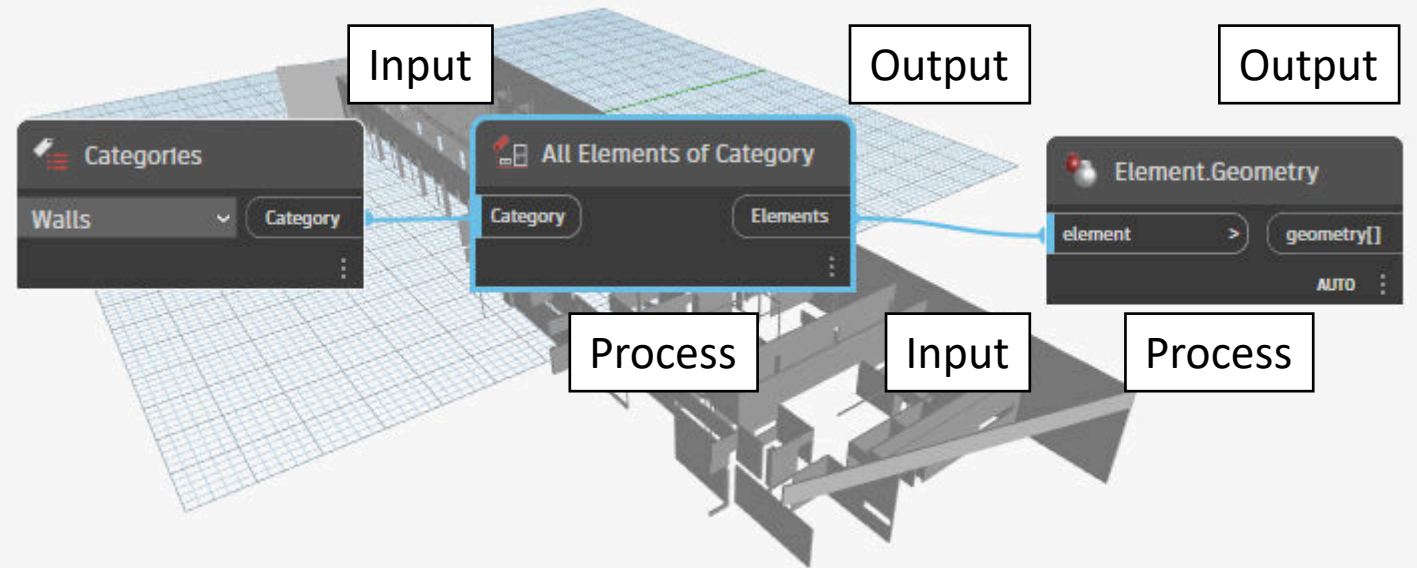
Inputs, Outputs and Triggers



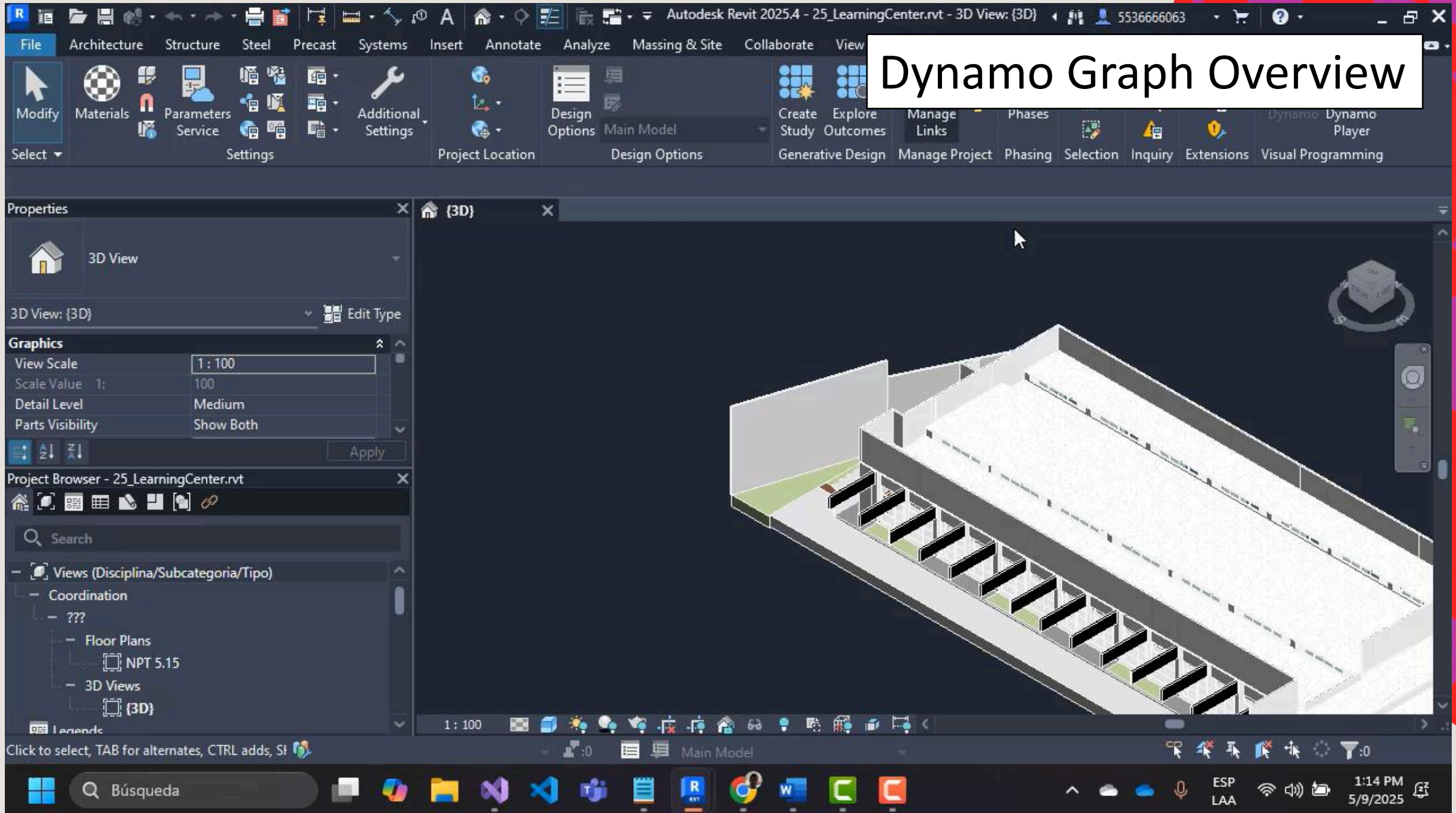
Logic is Repeatable, Scripts payoff

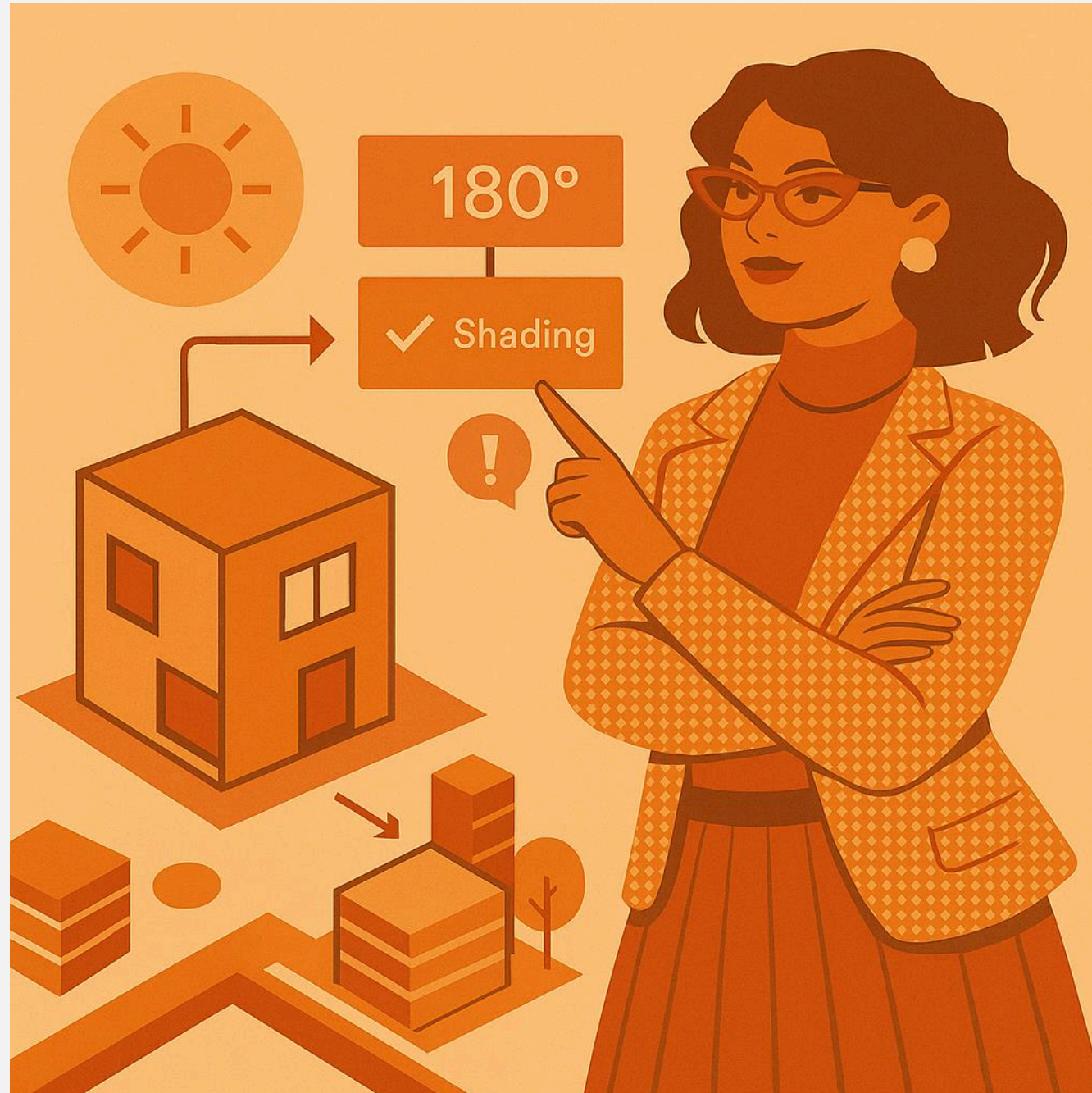


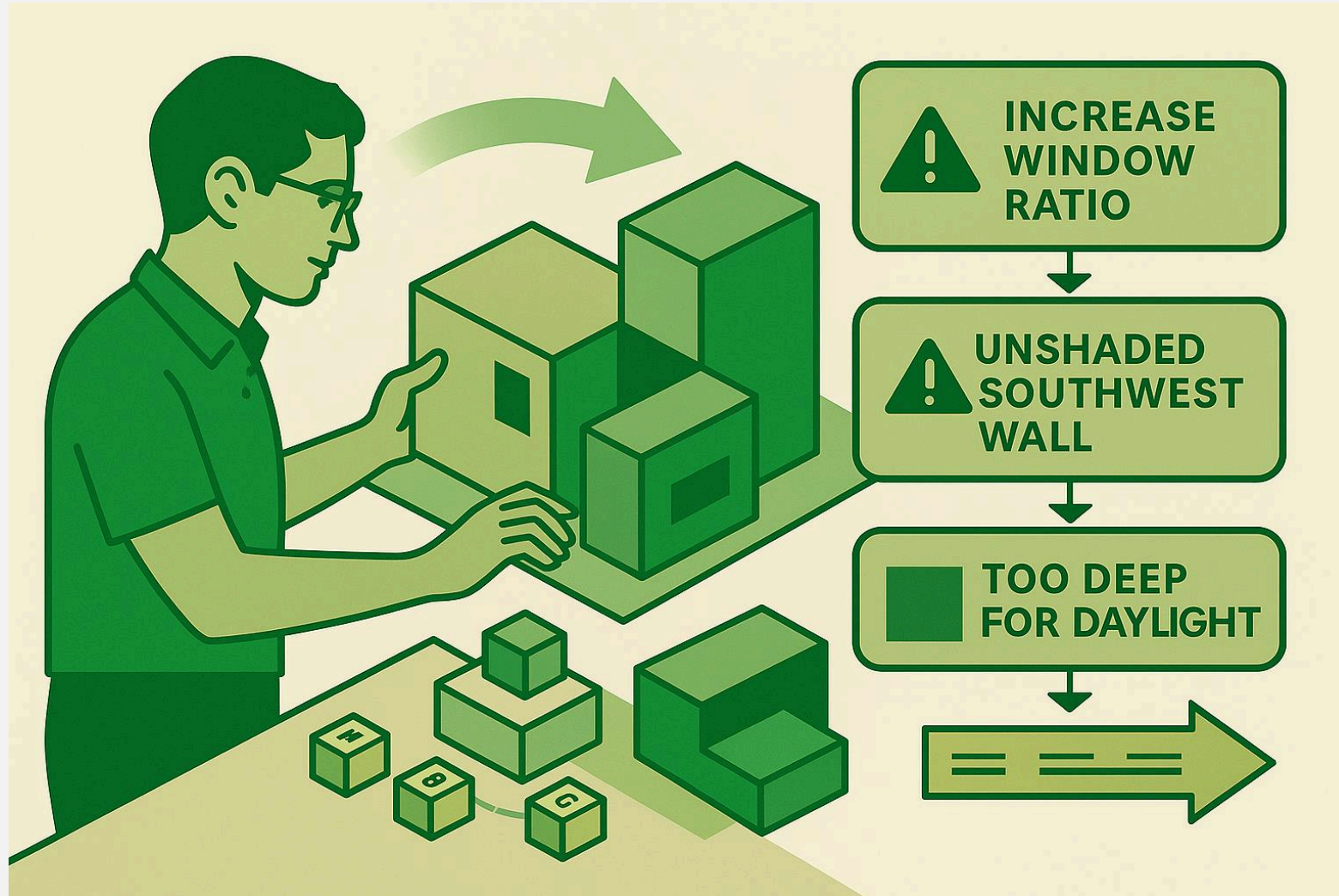
LET'S START
WITH 1
METRIC



Dynamo Graph Overview







Recent

Sort by **Date modified**

Search



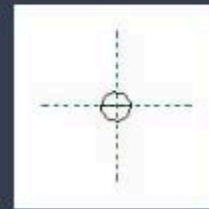
New ...

Community forum



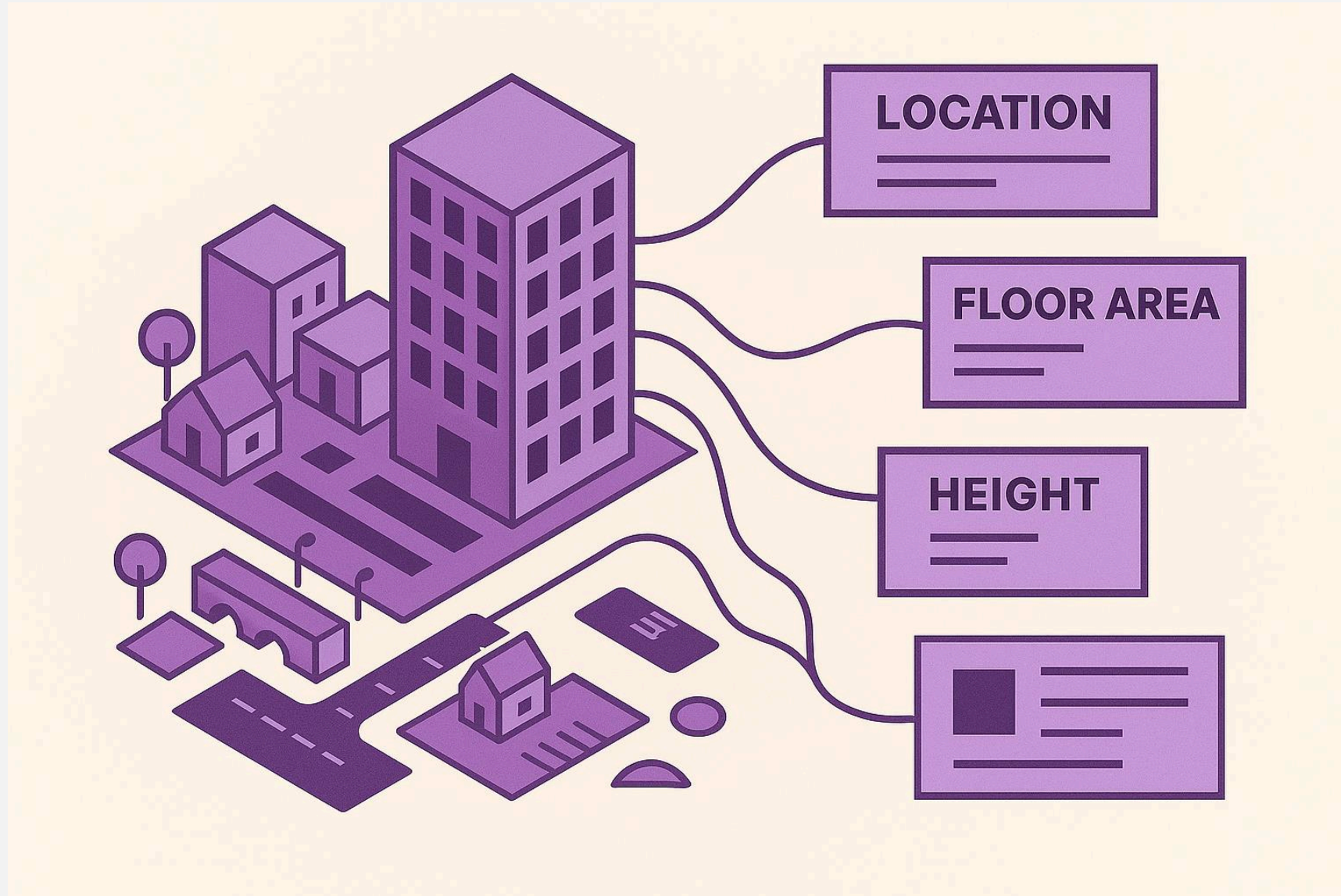
25_House

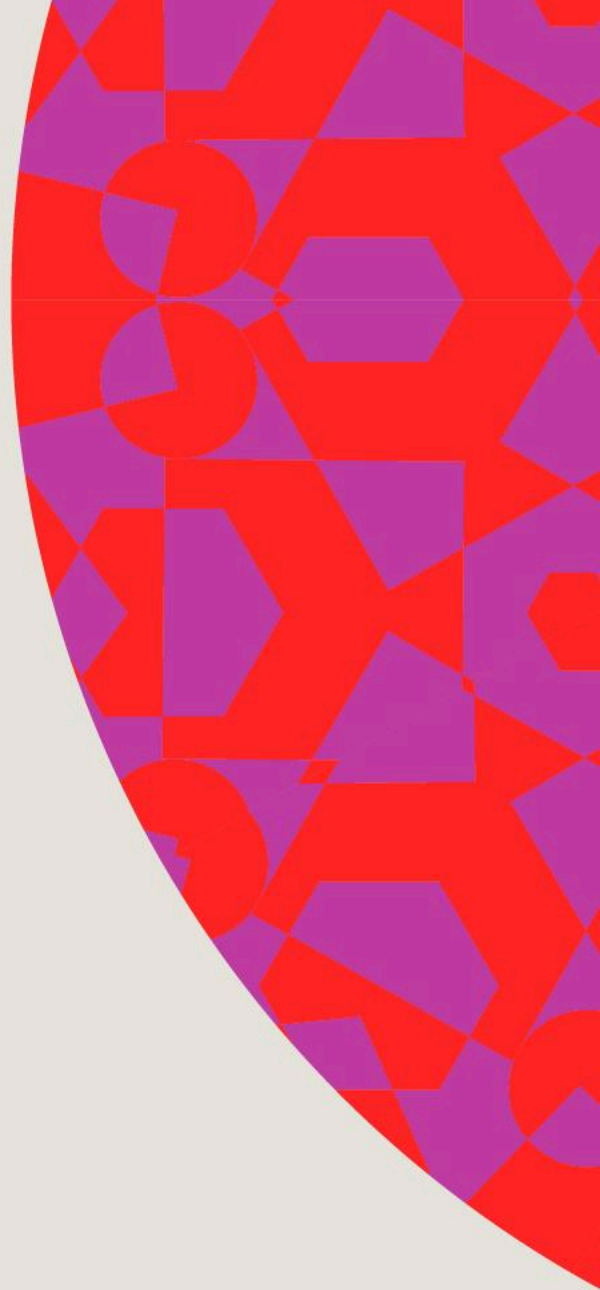
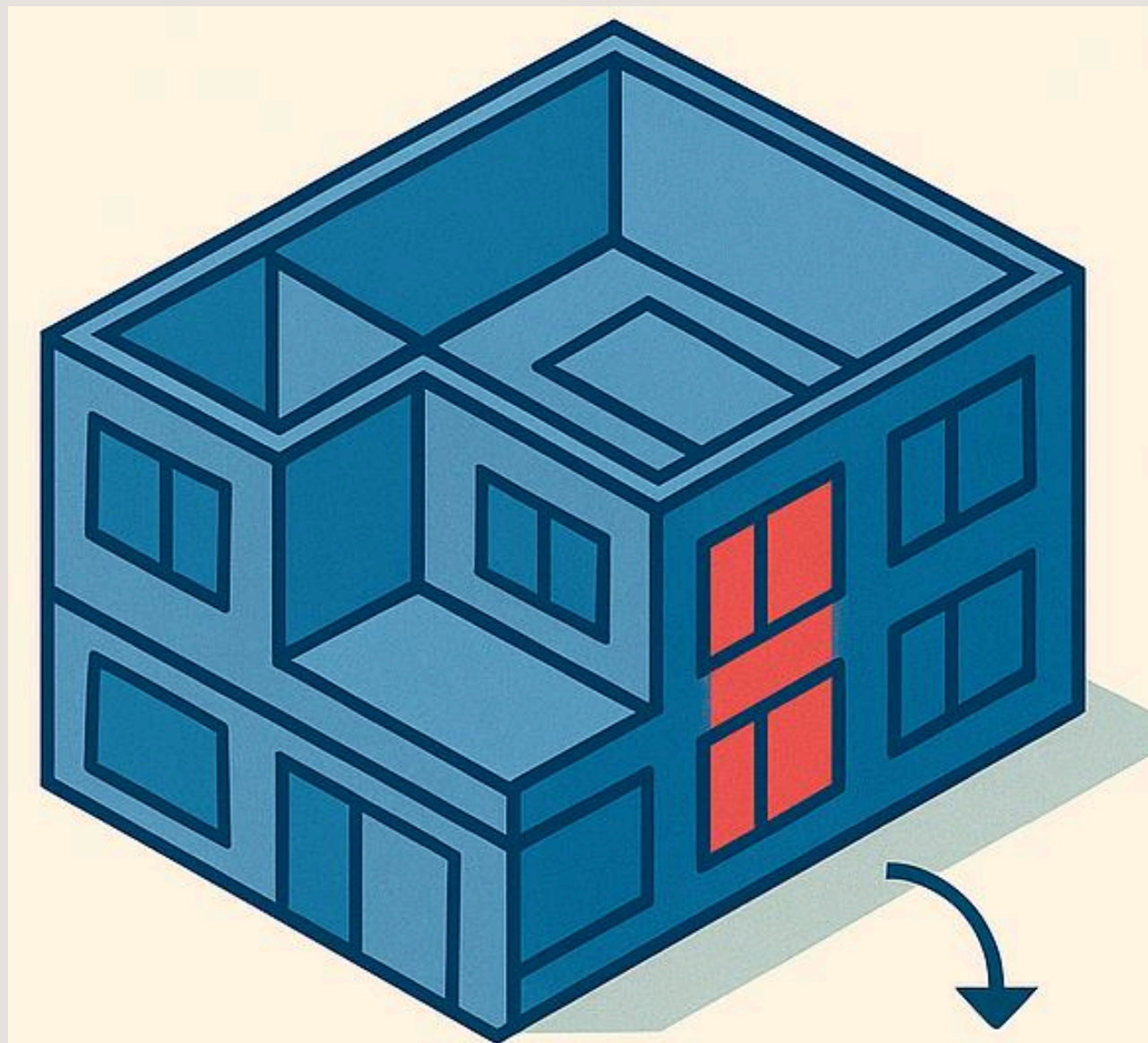
5/8/25, 10:08 AM

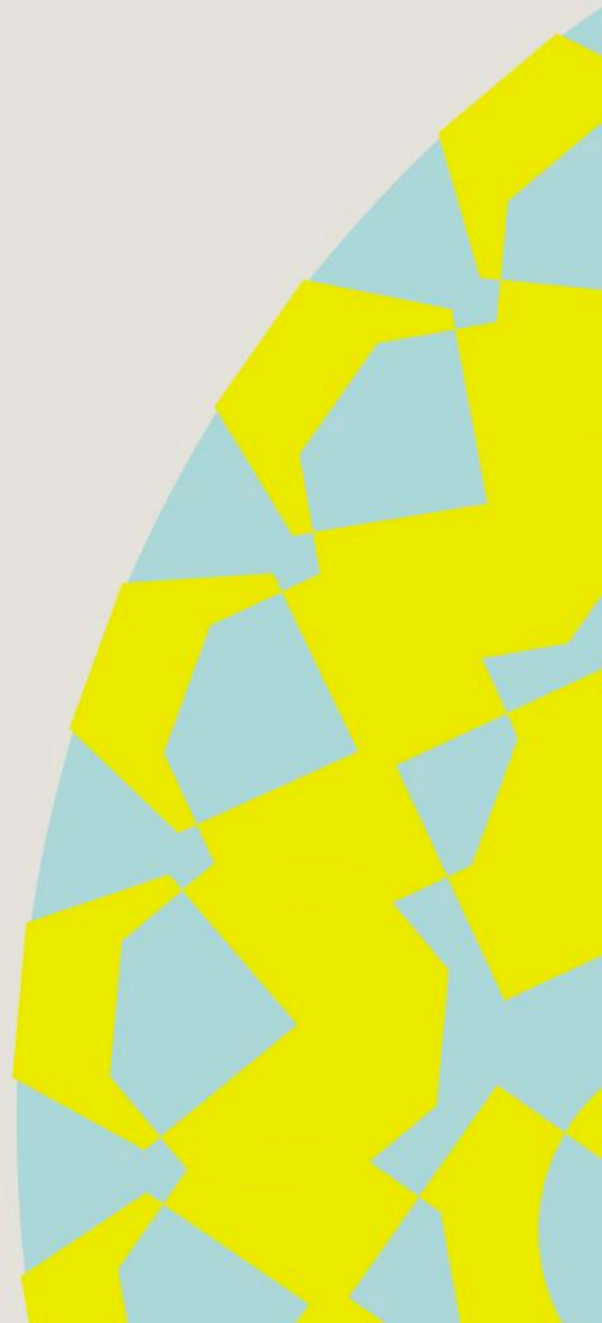


Test

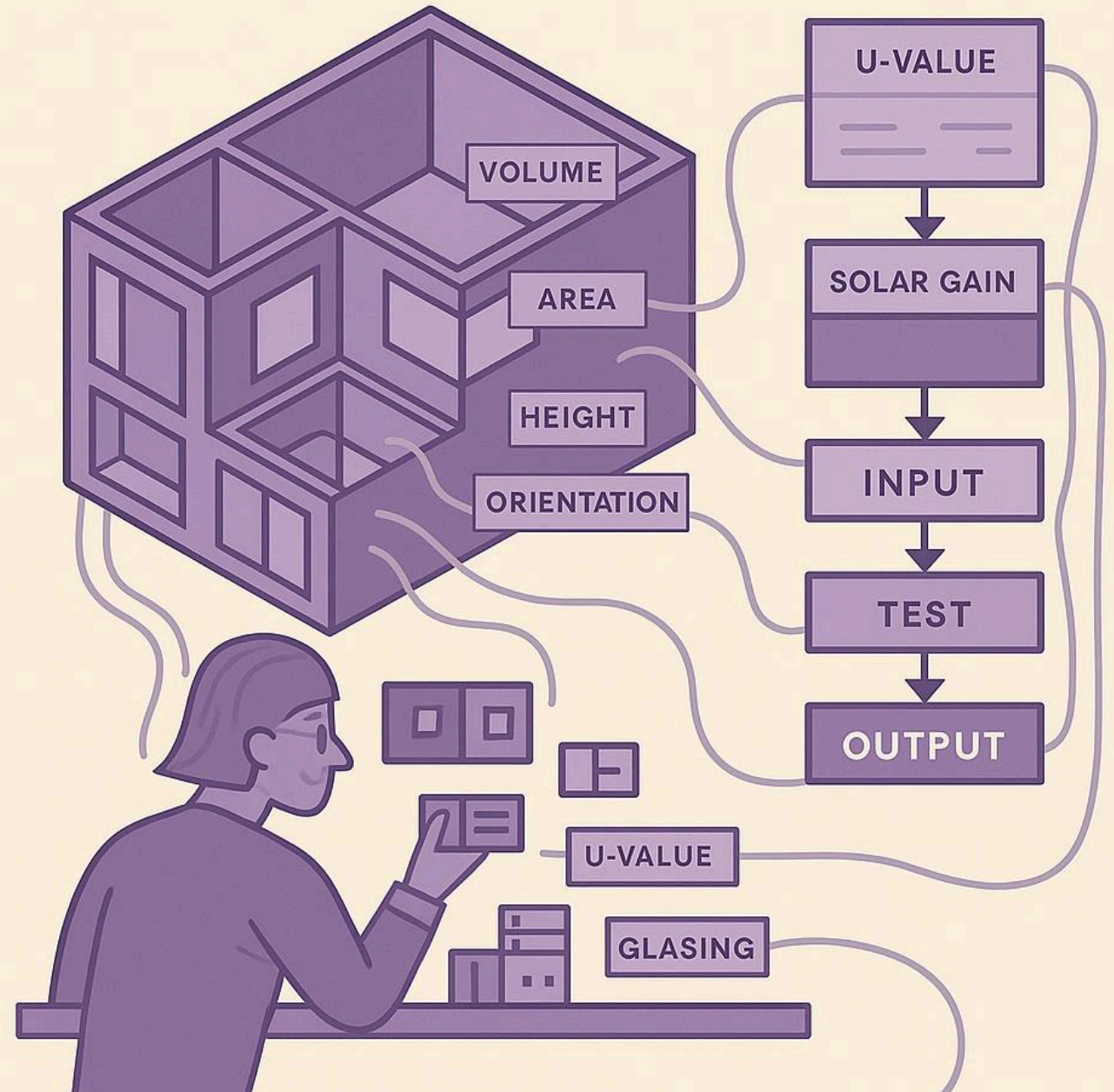
3/9/25, 11:14 PM







REVIT PARAMETERS & ENERGY DATA



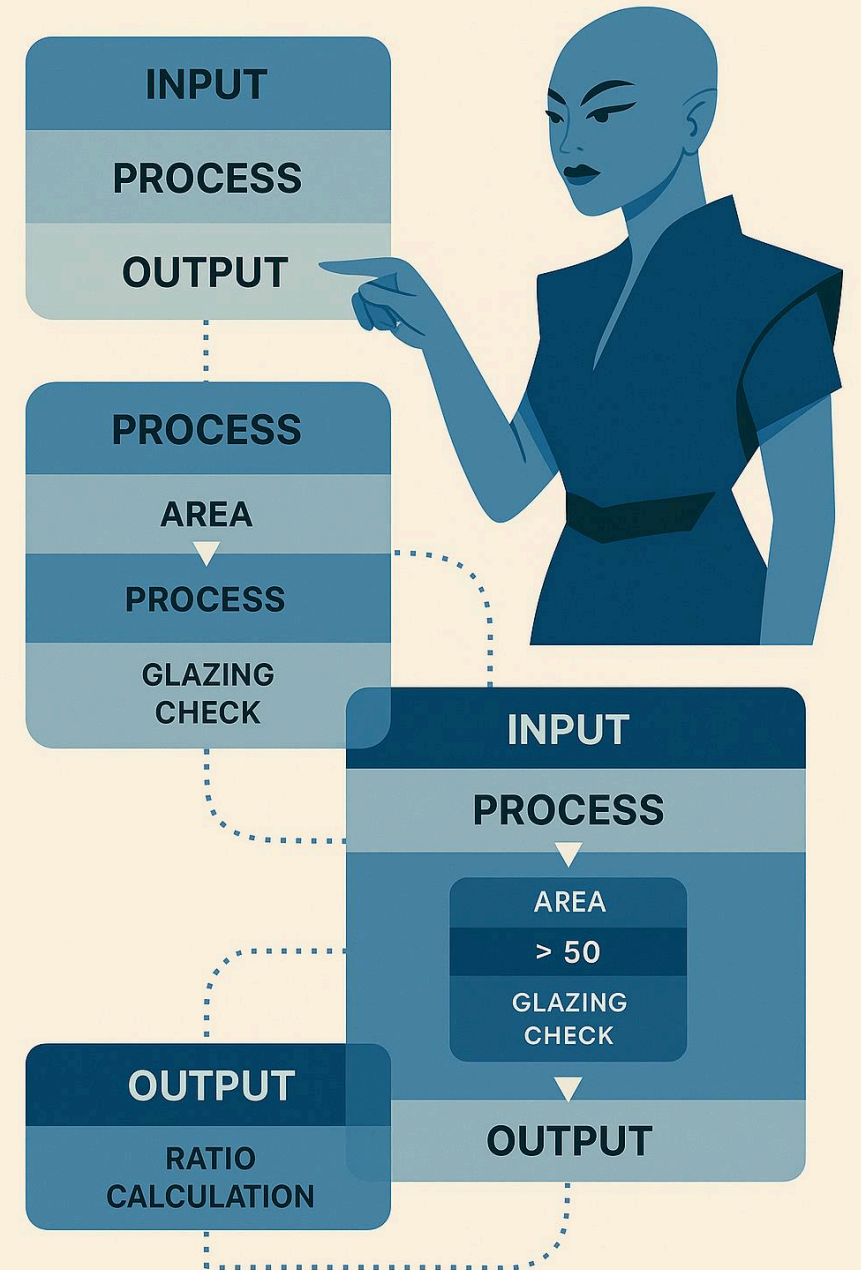
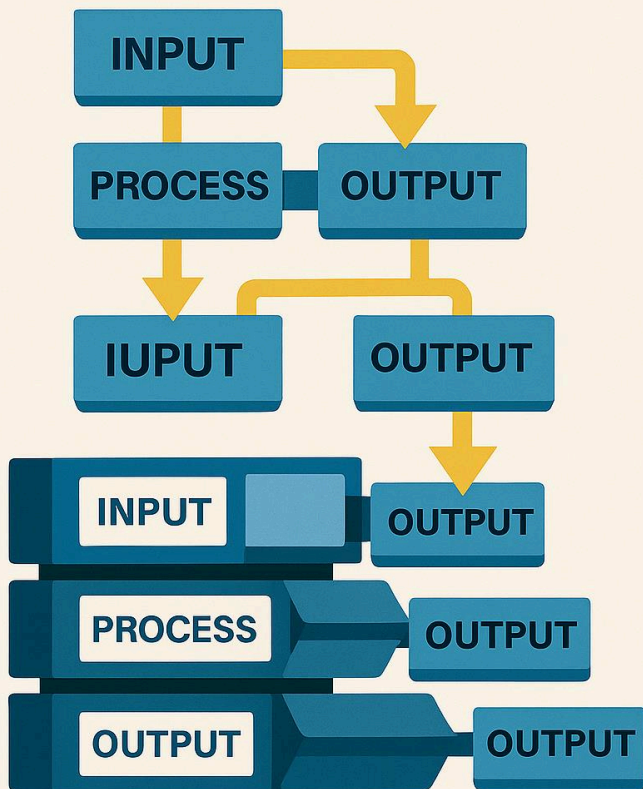


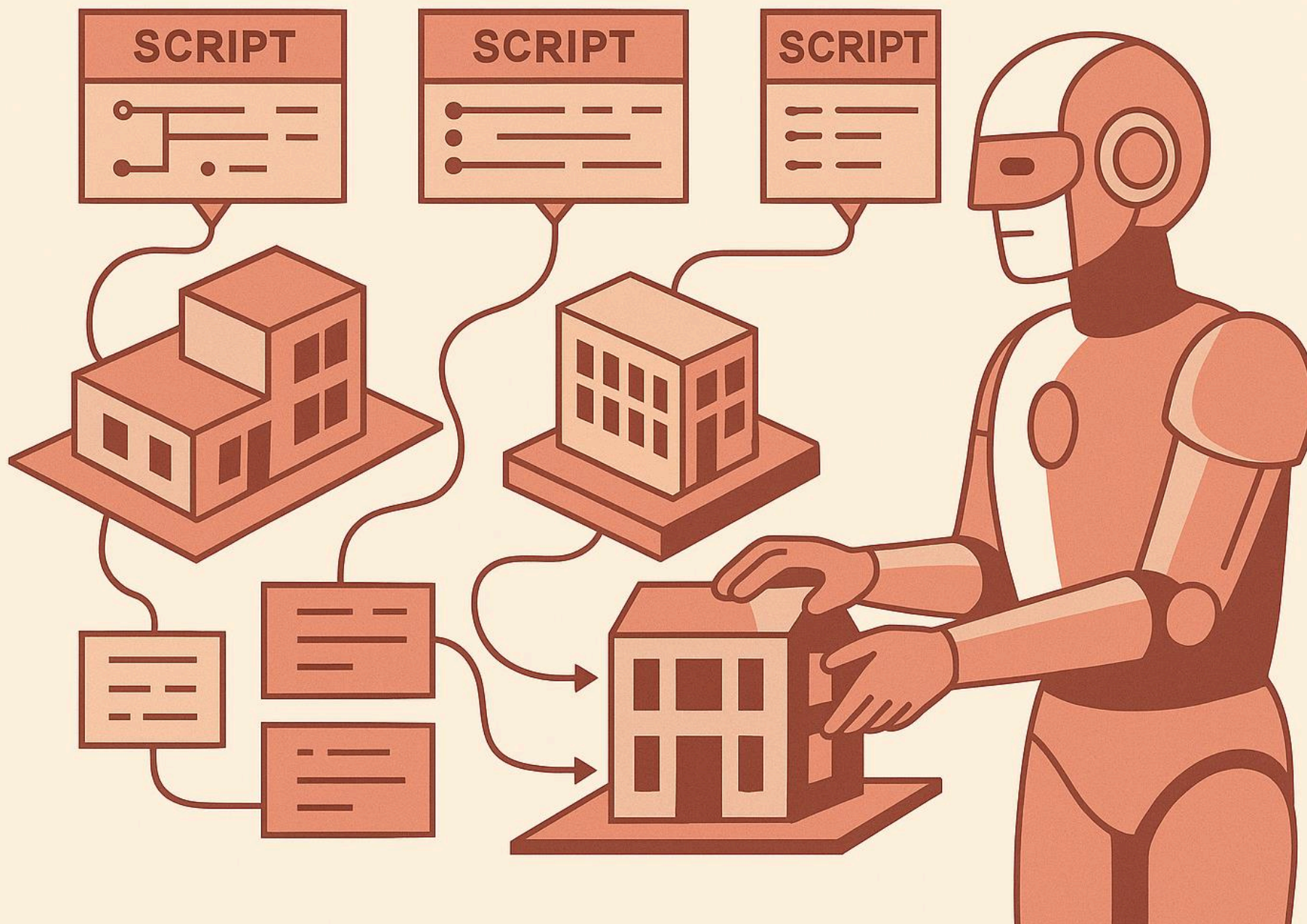
Tagging and Labeling can reflect data

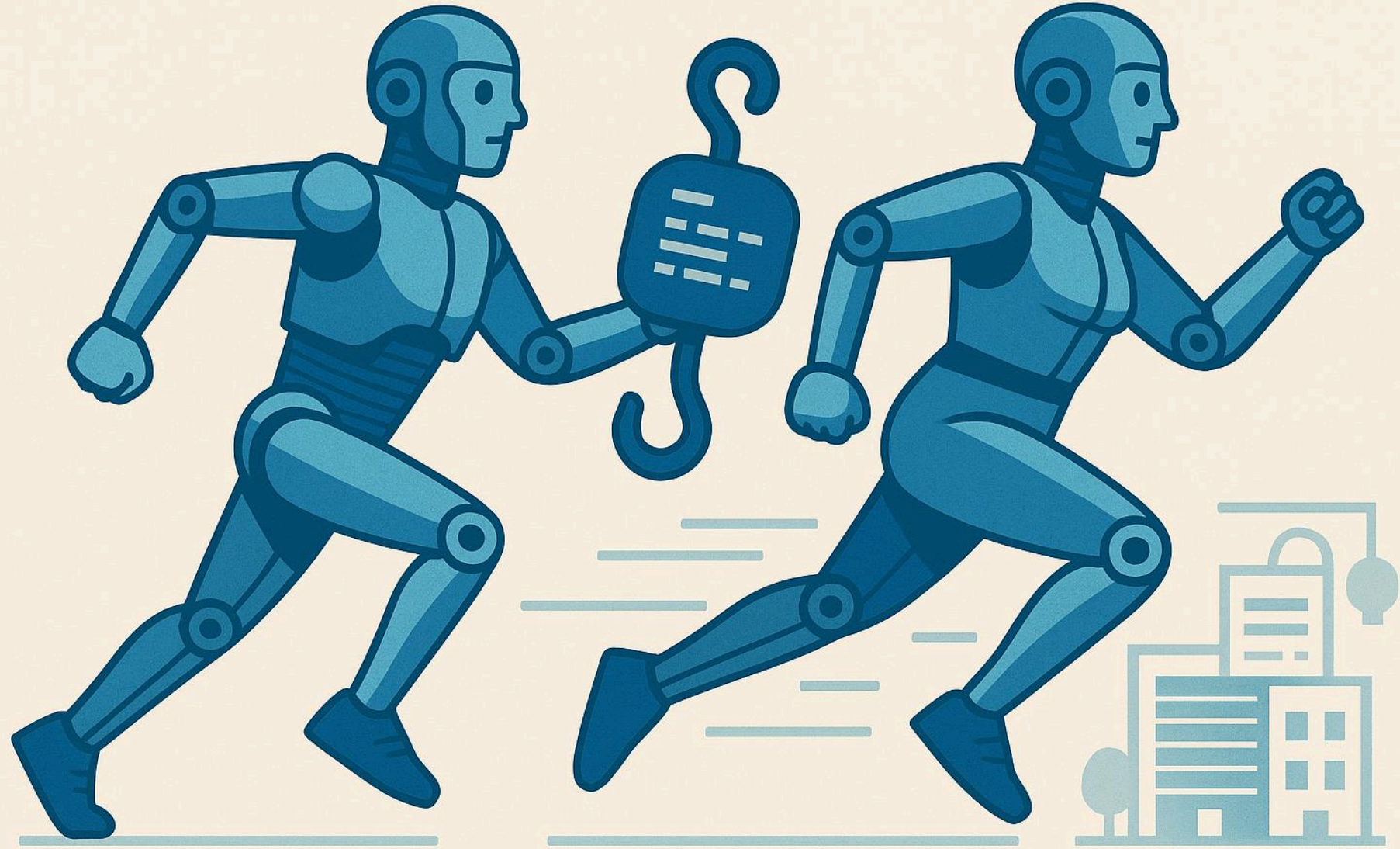


Cause and Effect Relationships

Granularity and Scalability









← New scenario



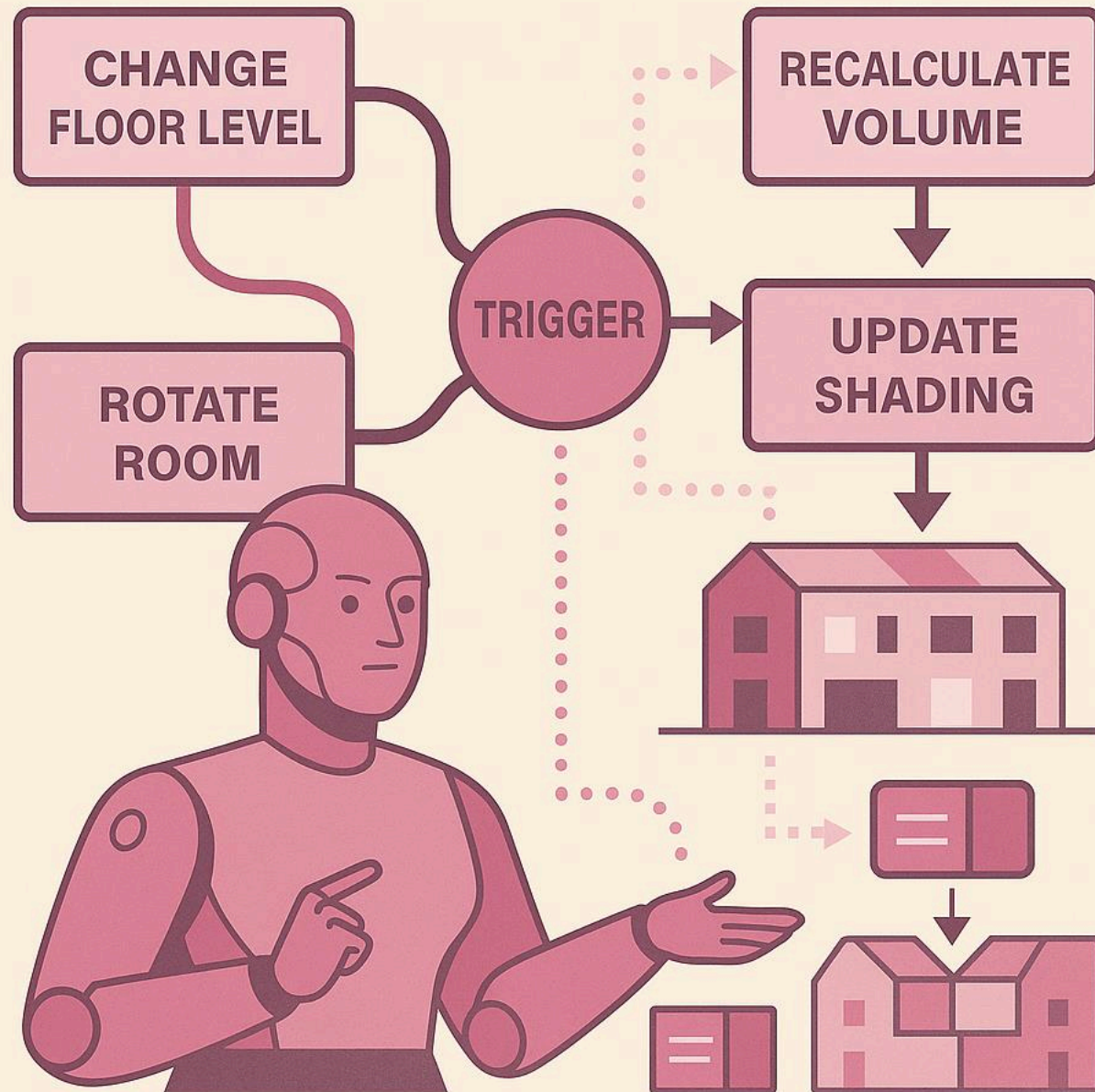
ALL APPS

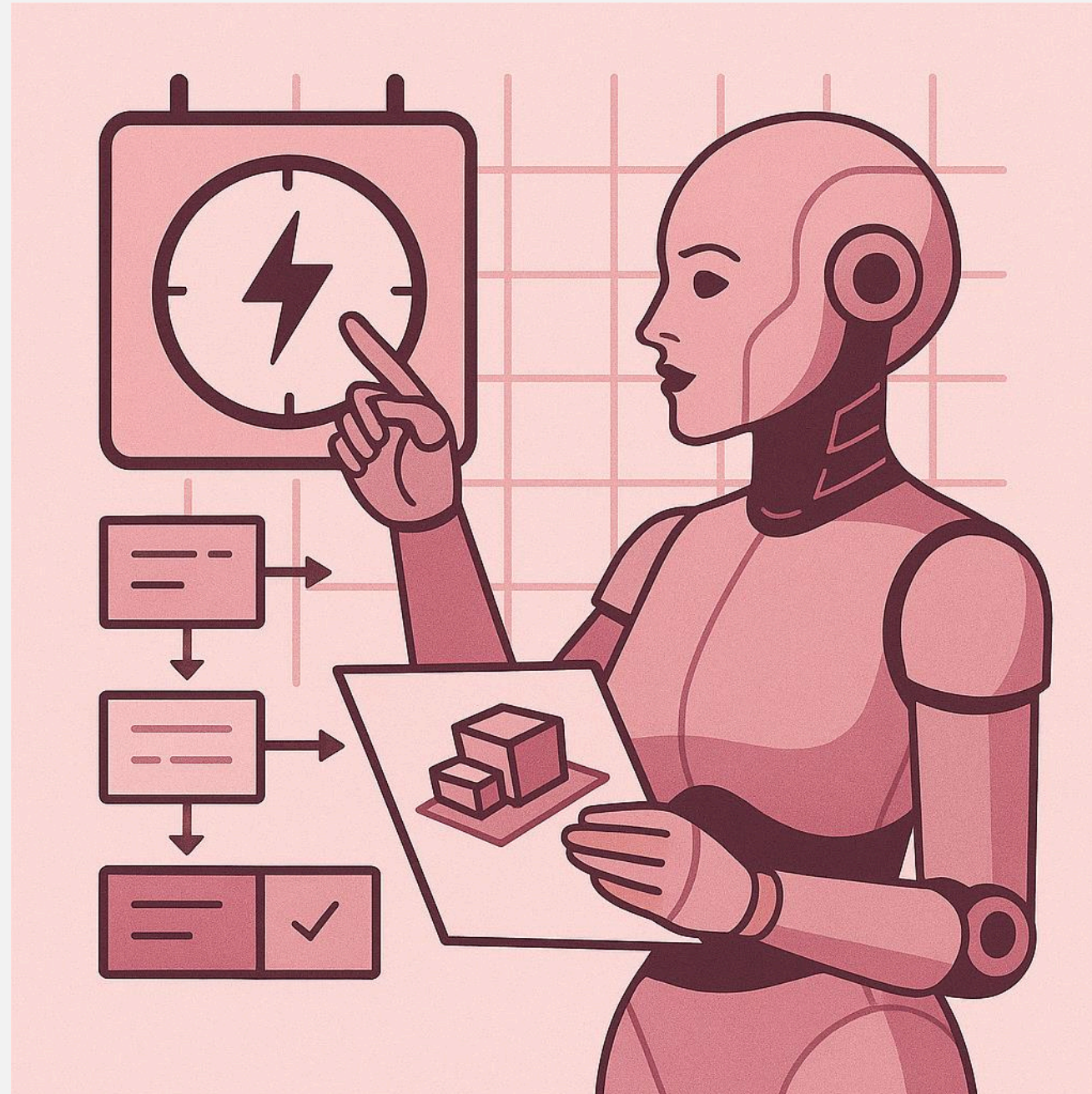
- Google Sheets
- Flow Control
- OpenAI (ChatGPT, Whisper, DALL-E)
- Tools
- Webhooks
- HTTP
- Microsoft Word Templates

Search apps or modules

Run once | Every 15 minutes

Icons for save, delete, settings, and other actions.





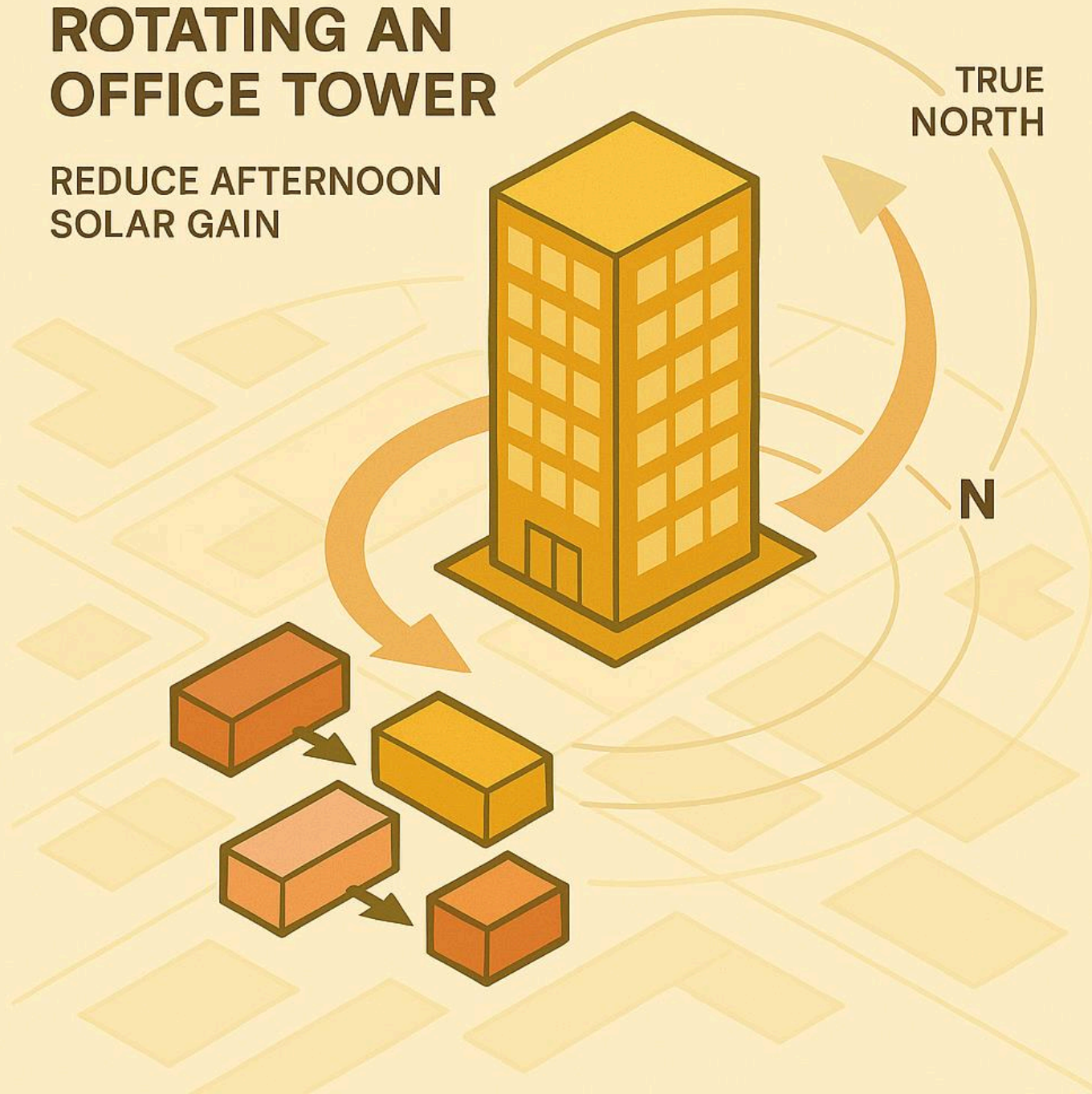
From Scenario to Practice

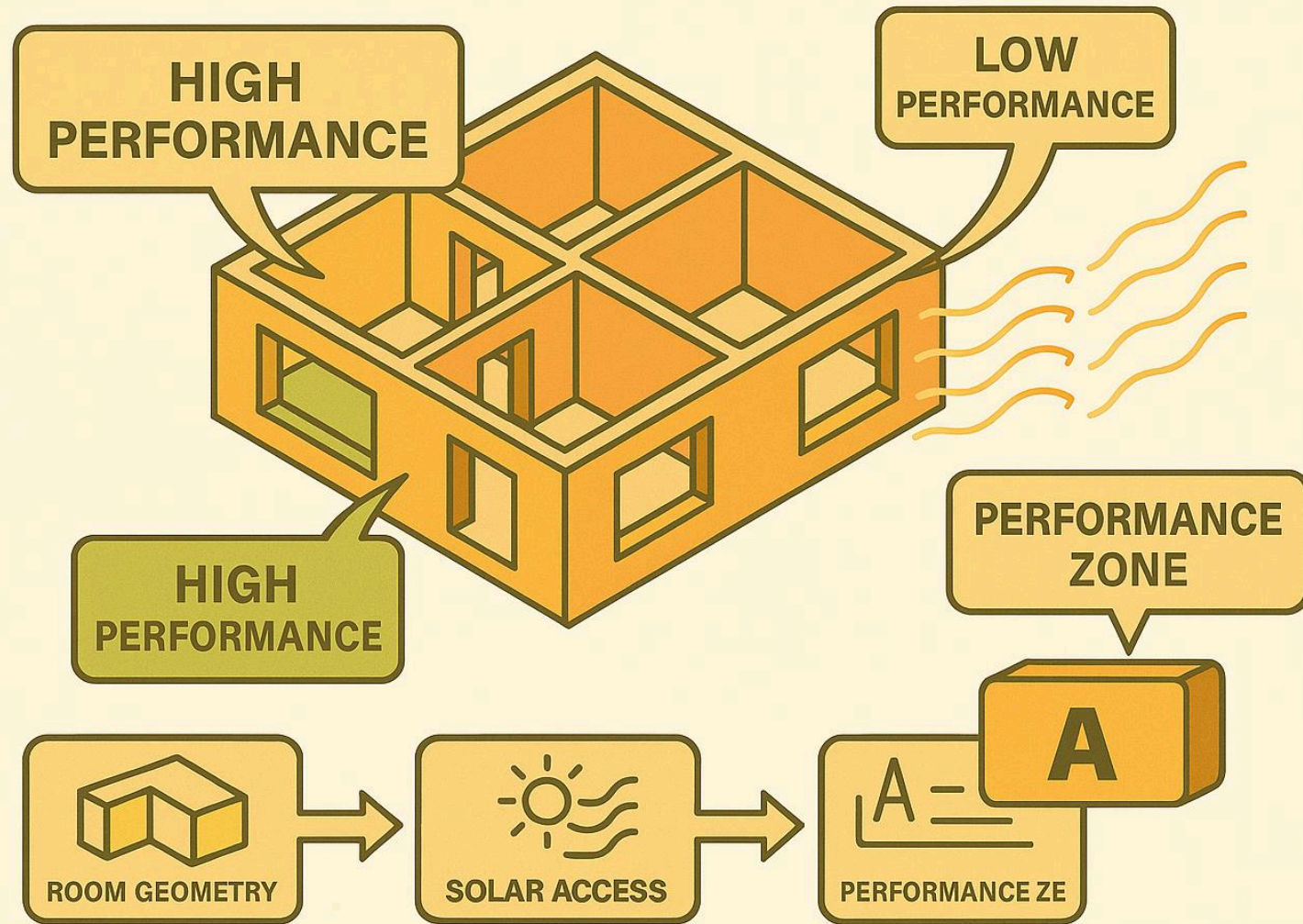




ROTATING AN OFFICE TOWER

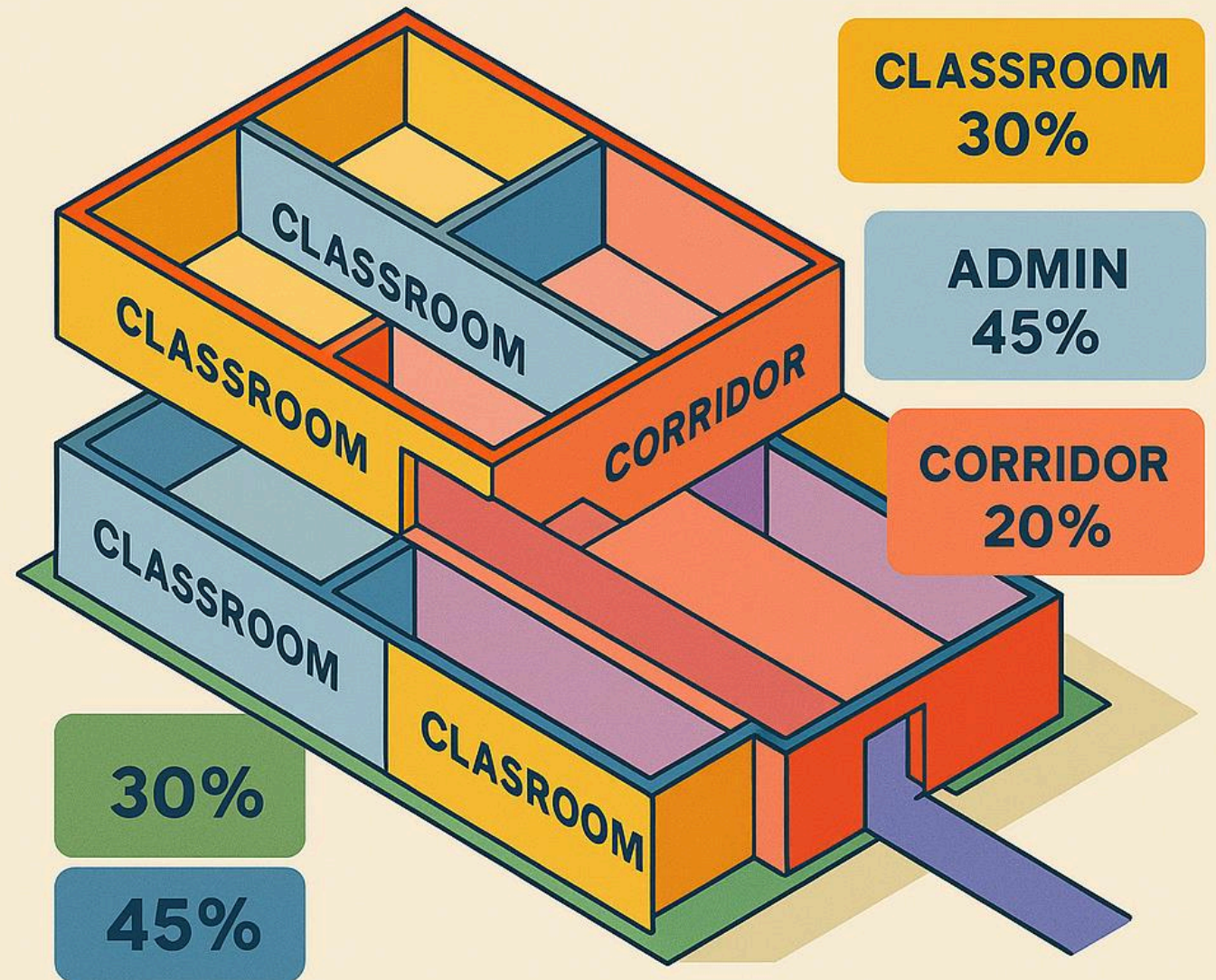
REDUCE AFTERNOON
SOLAR GAIN

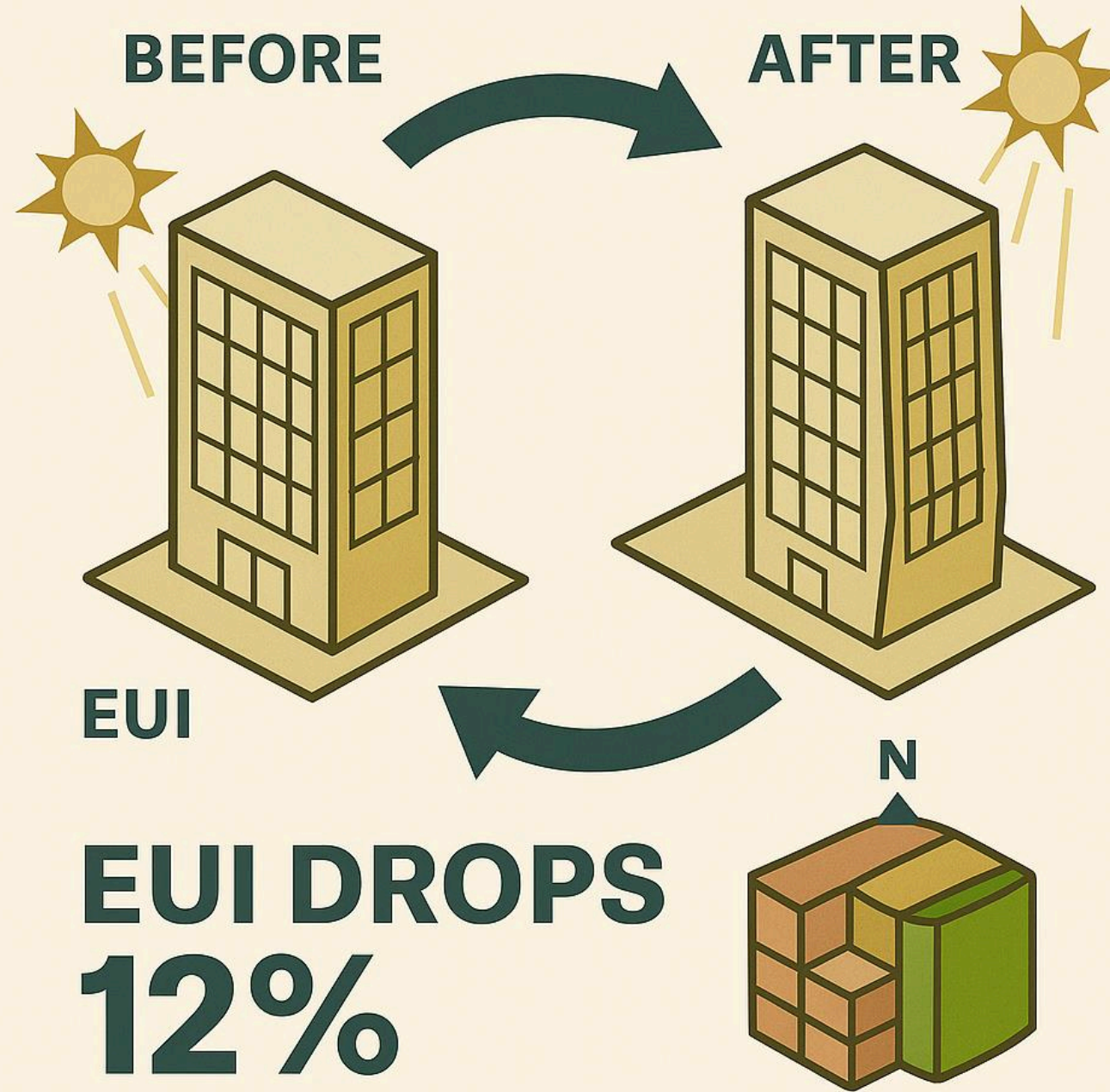




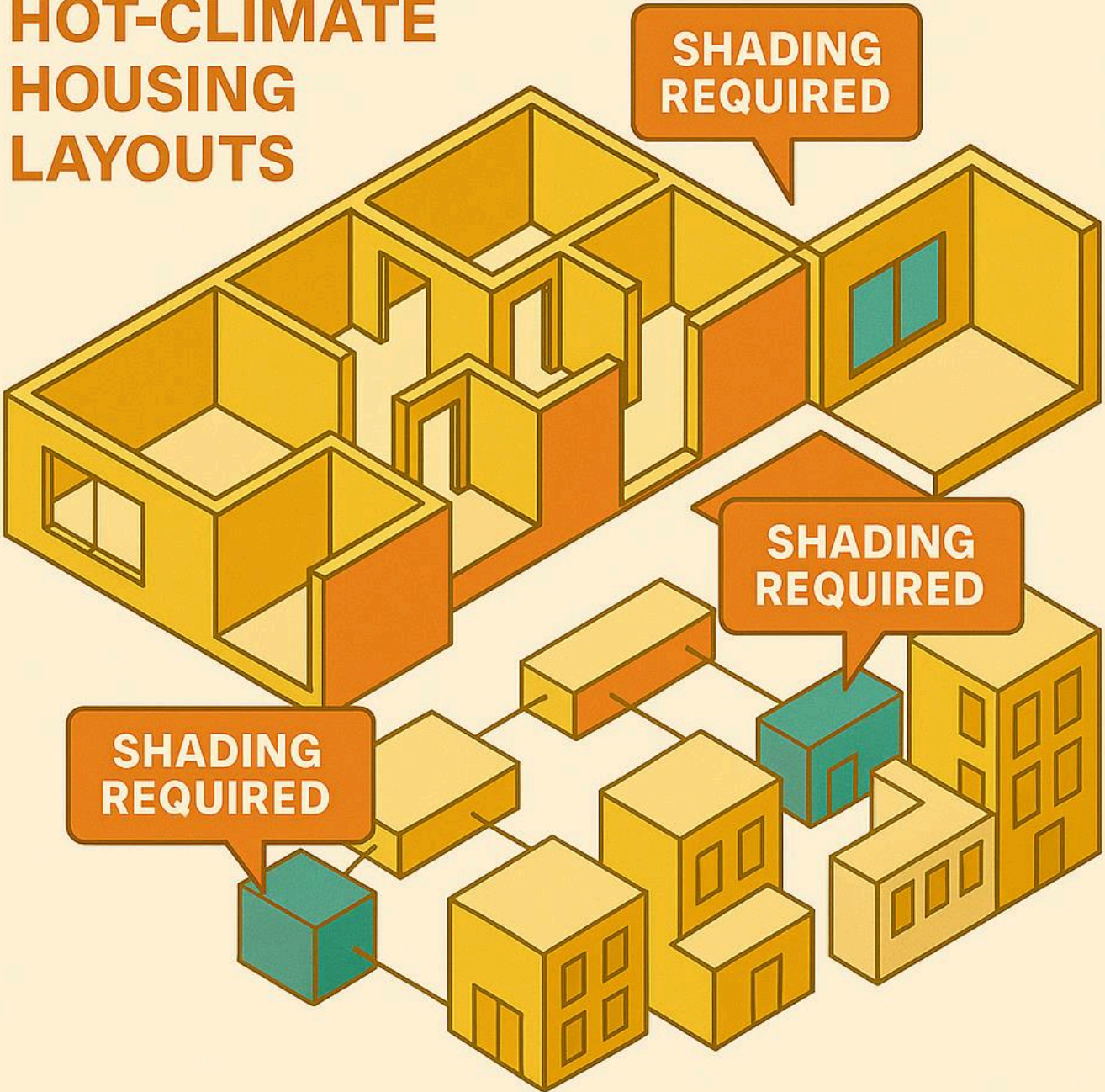


SCHOOL WWR RULE (WITH ZONES)

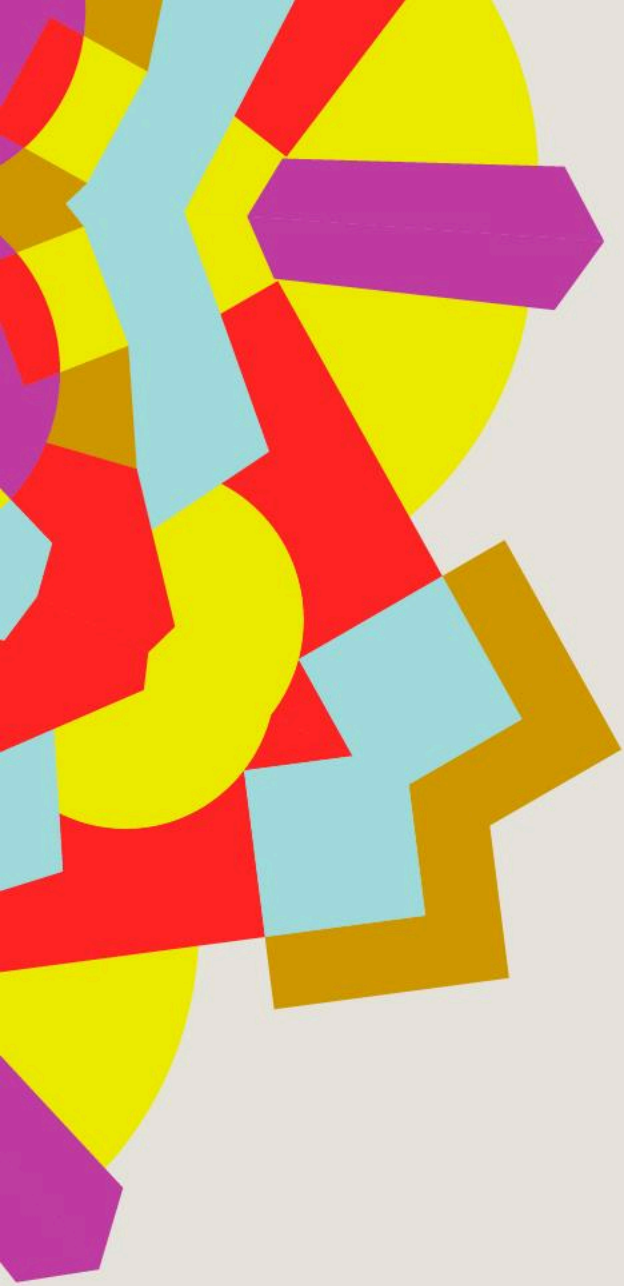




HOT-CLIMATE HOUSING LAYOUTS

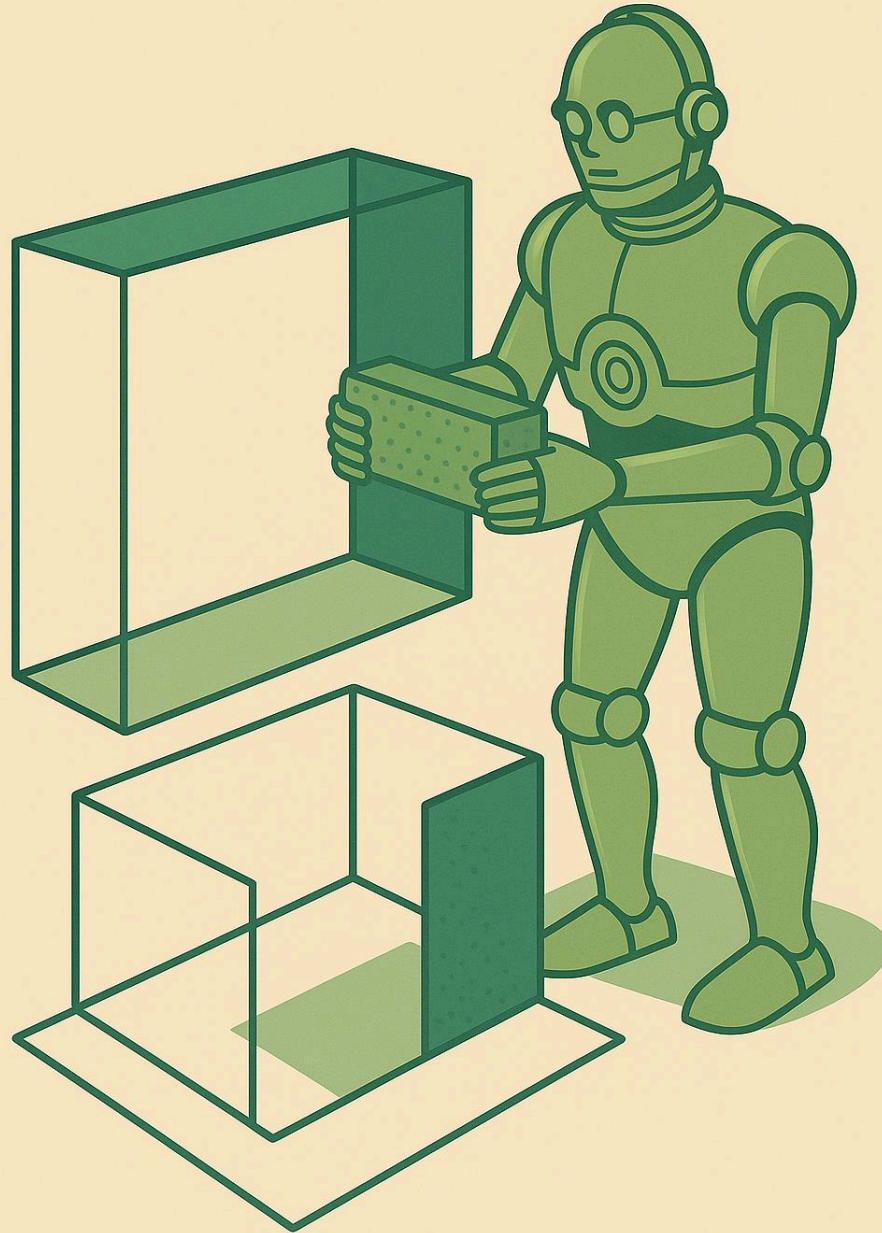


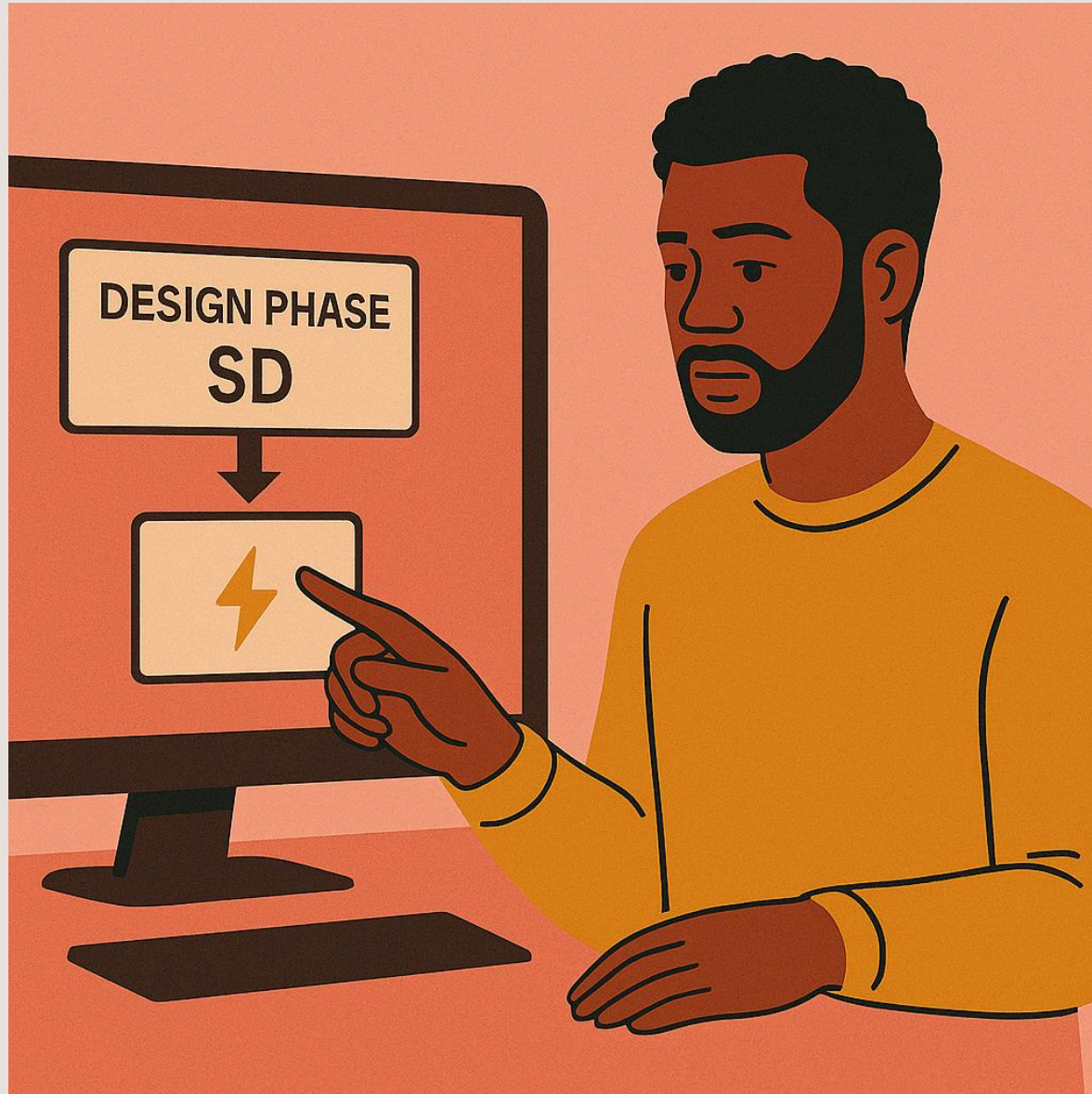




**START
SMALL,
REPEAT
OFTEN**



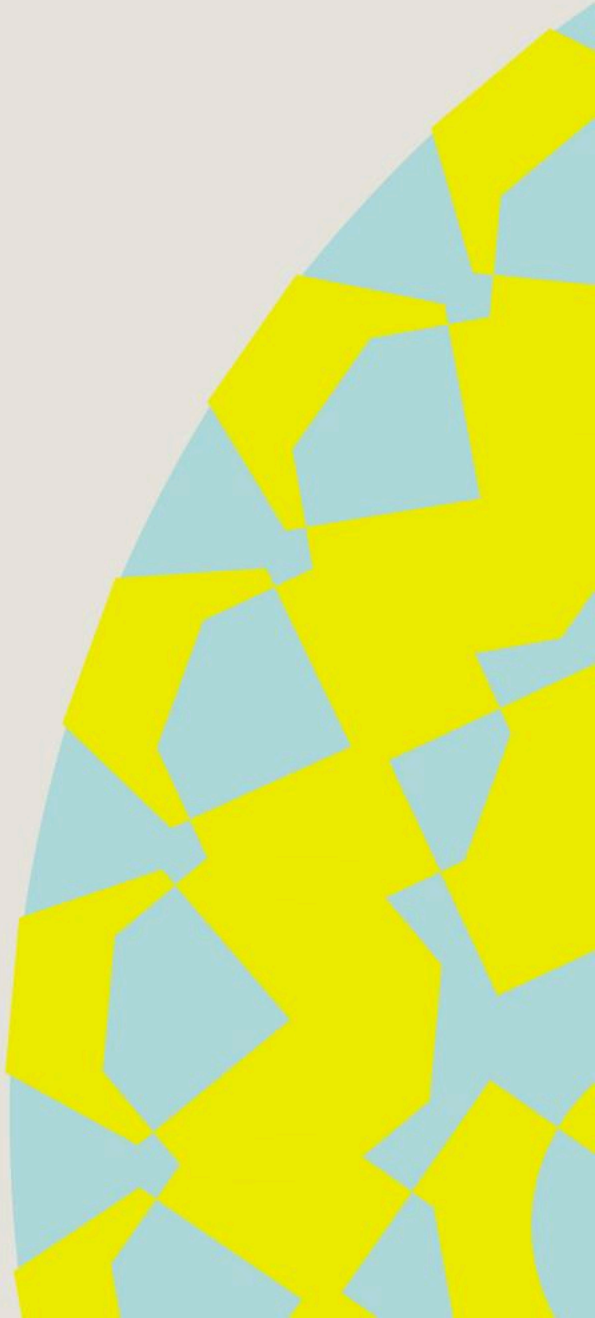
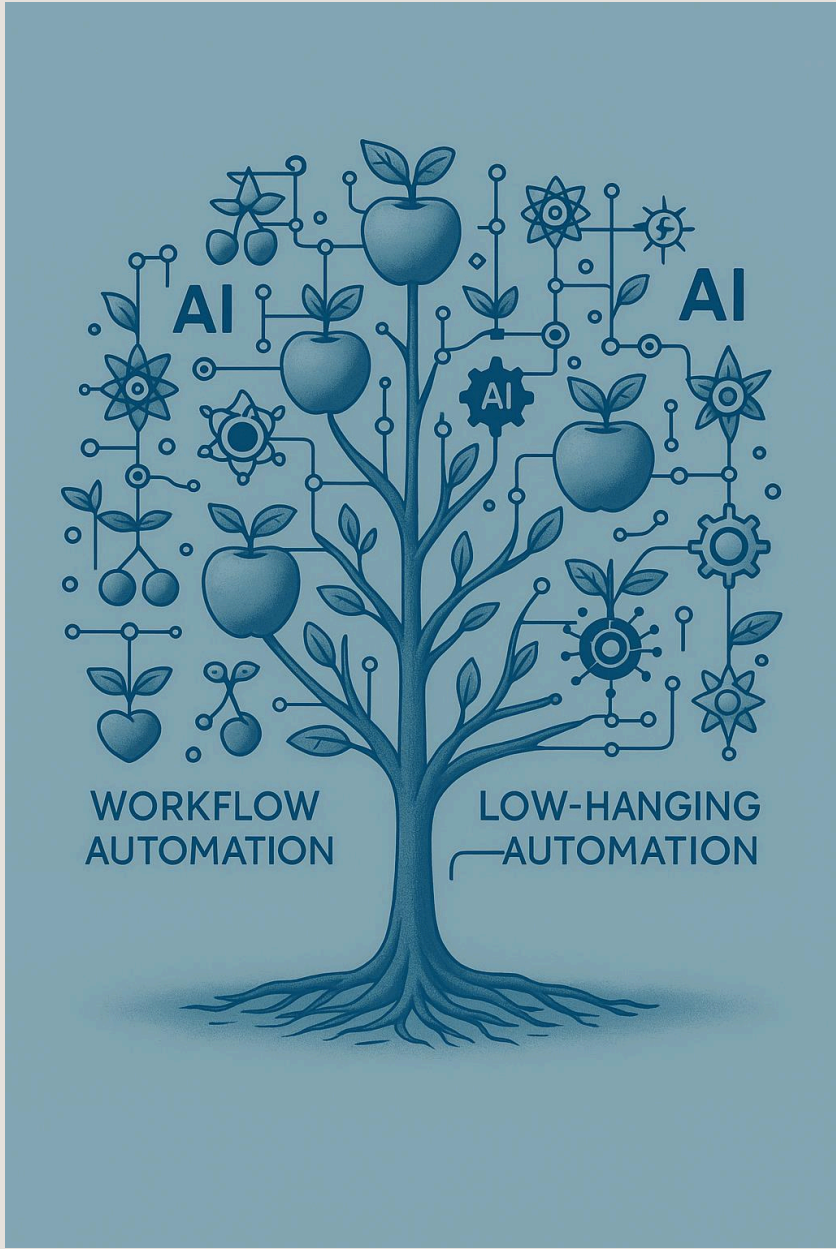


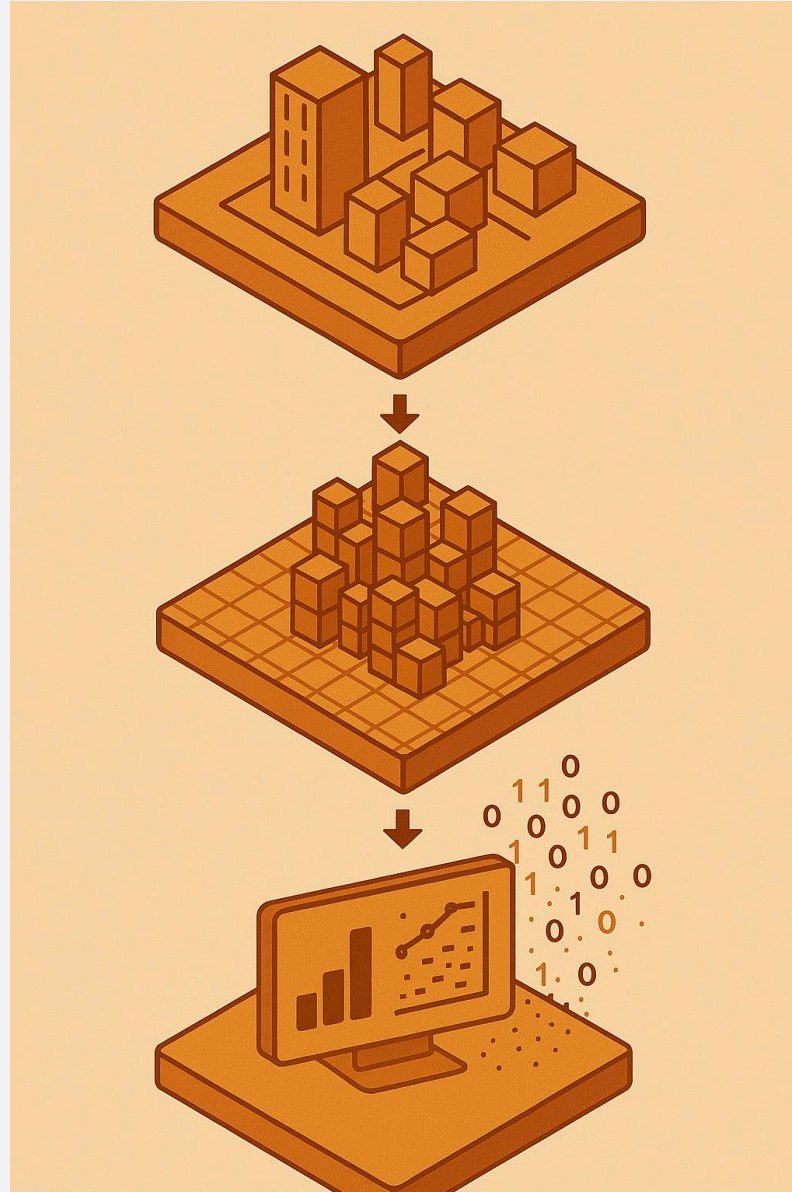


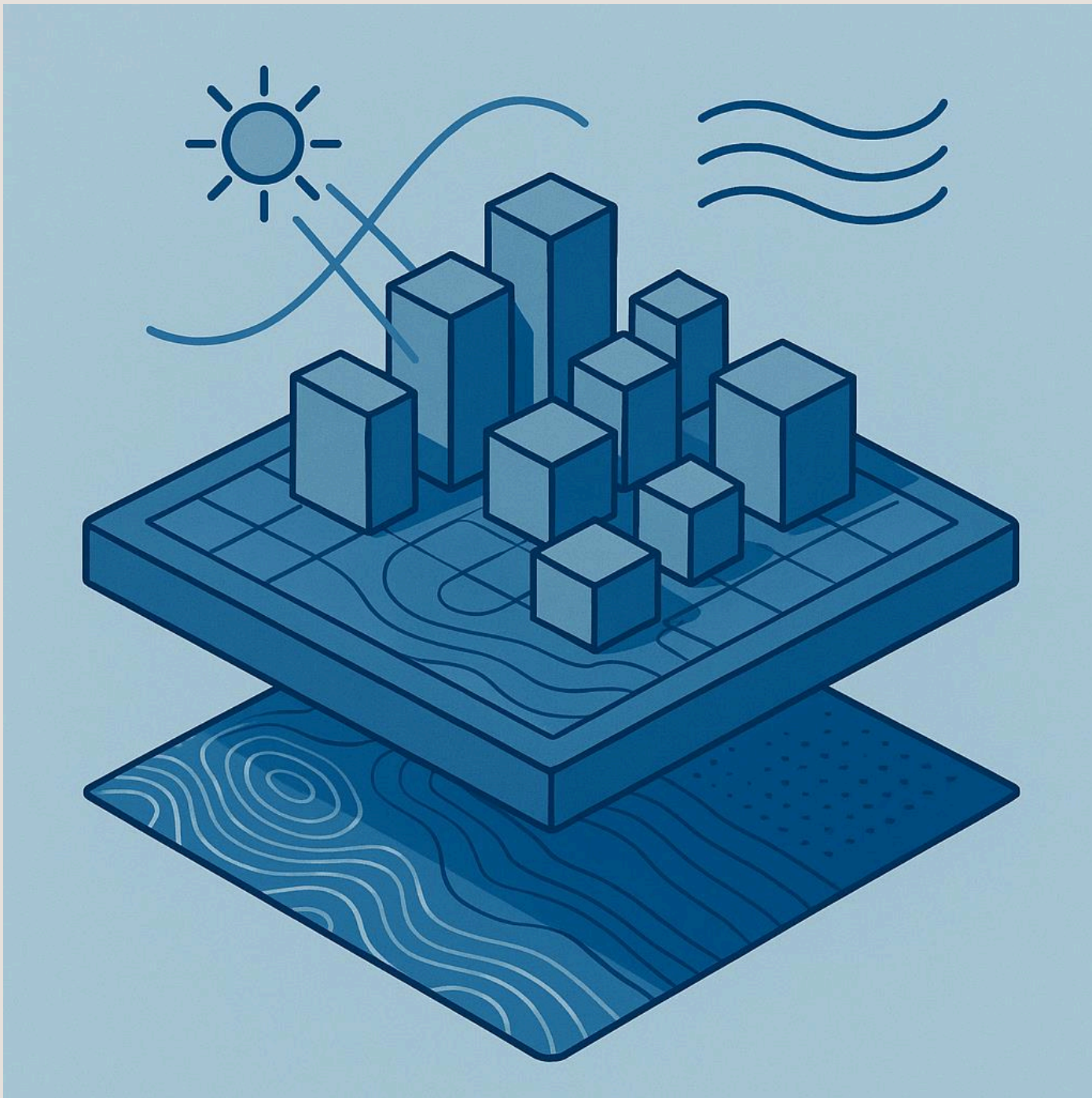


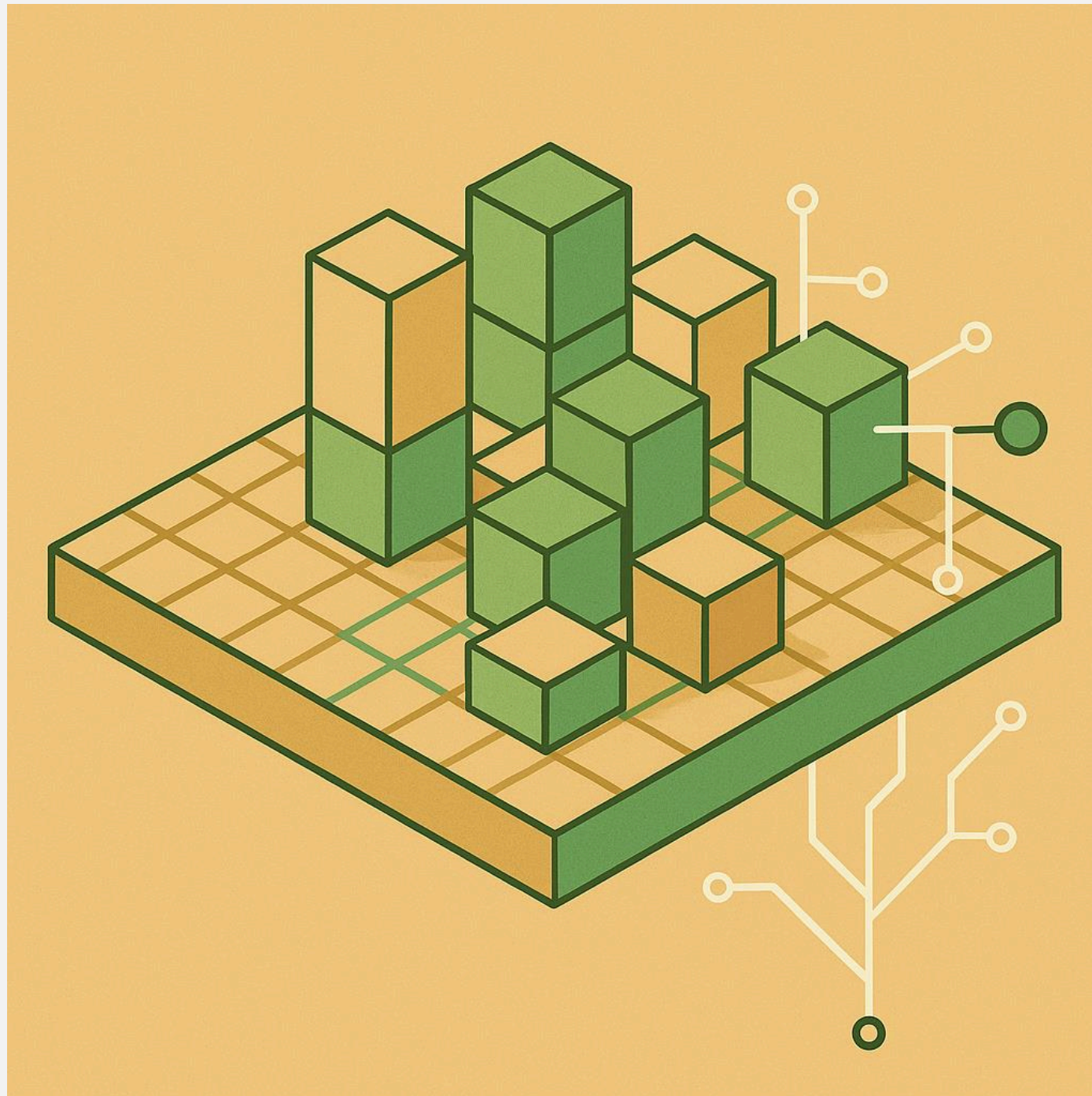




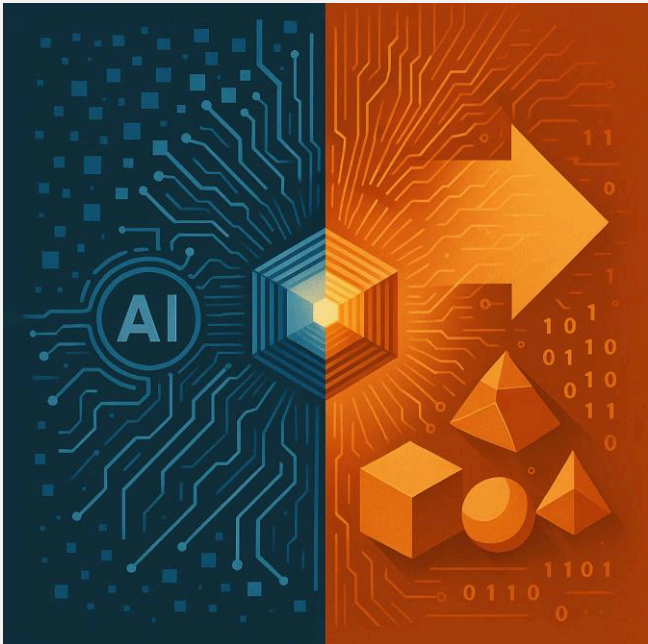
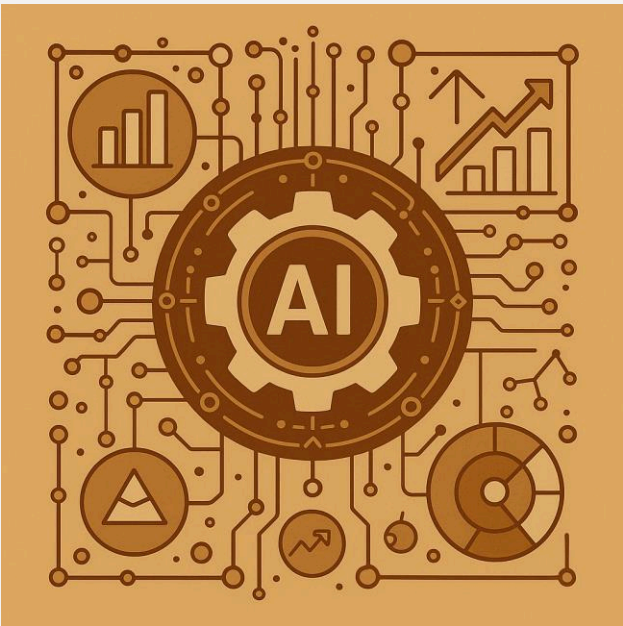
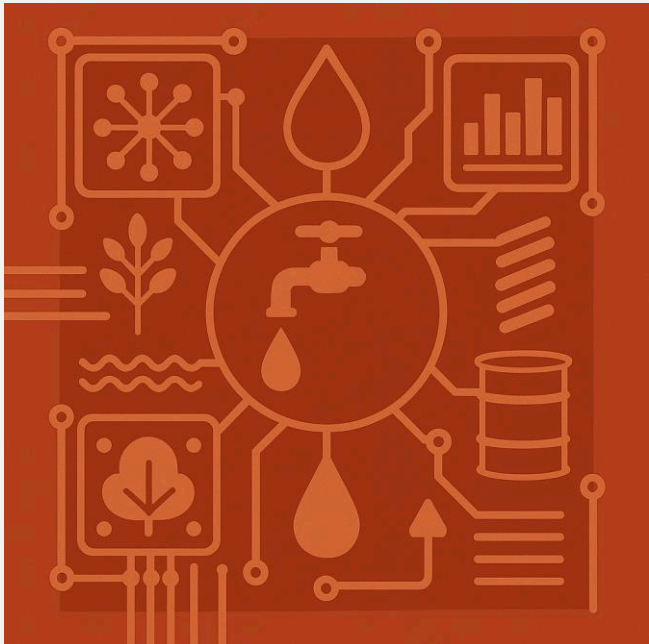
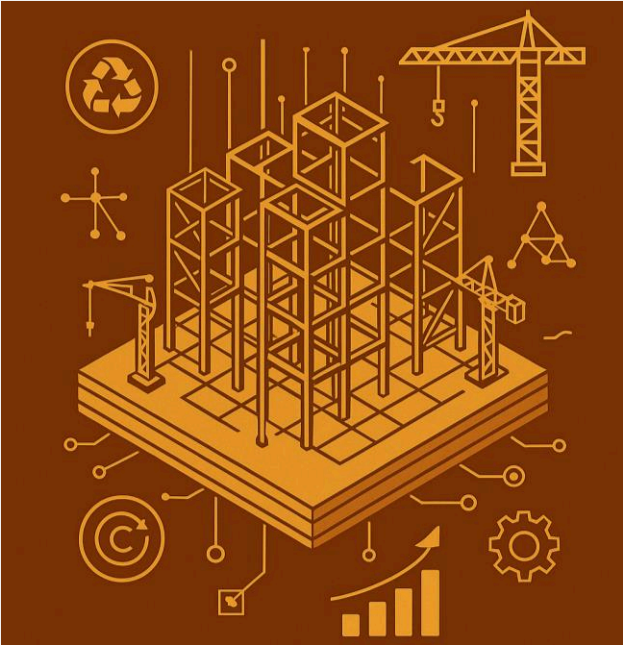
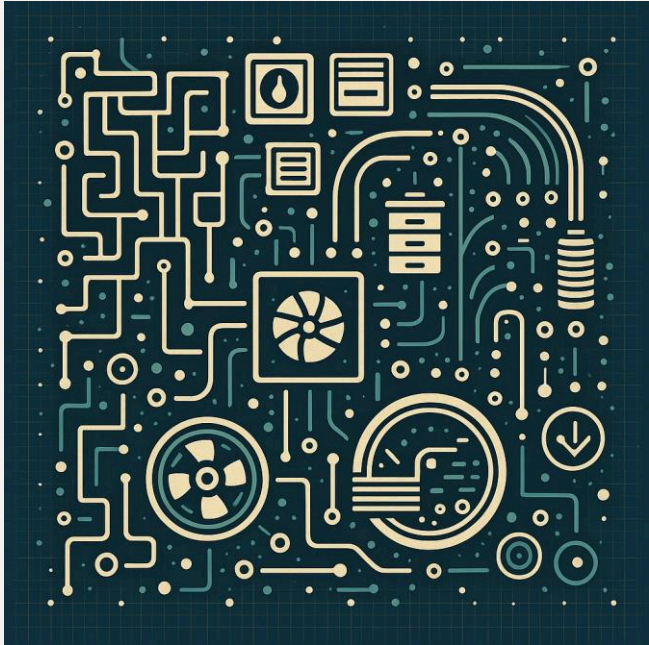




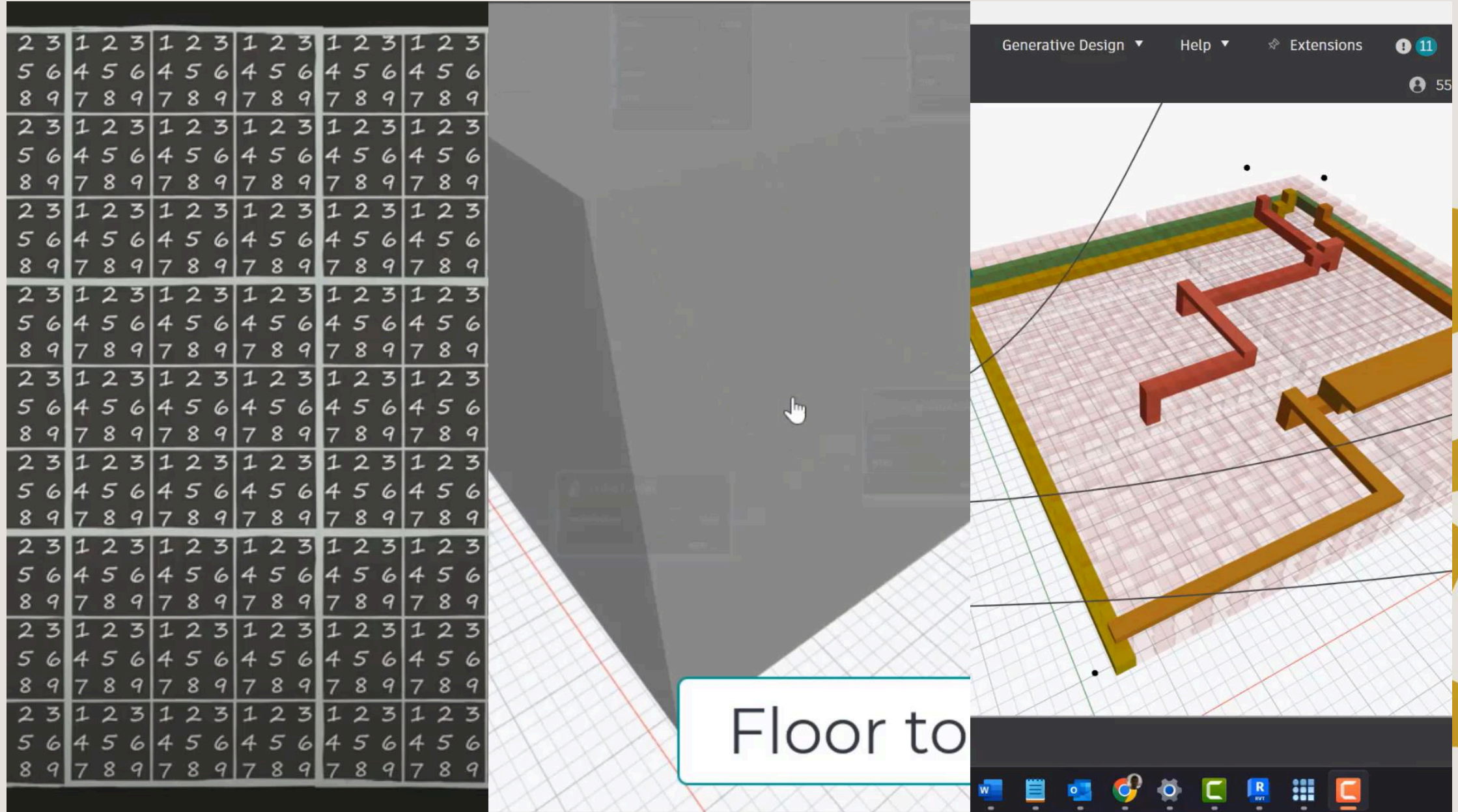




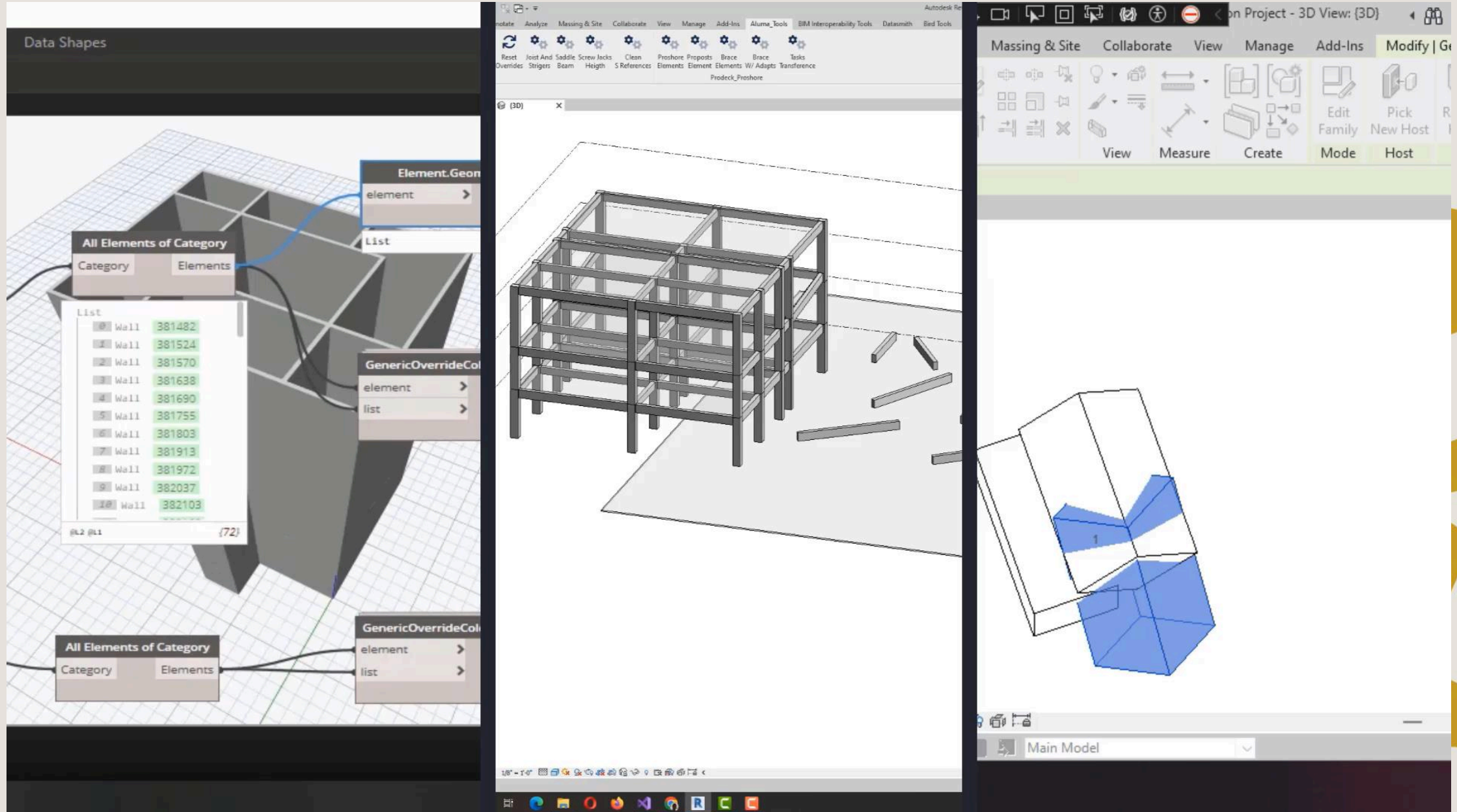




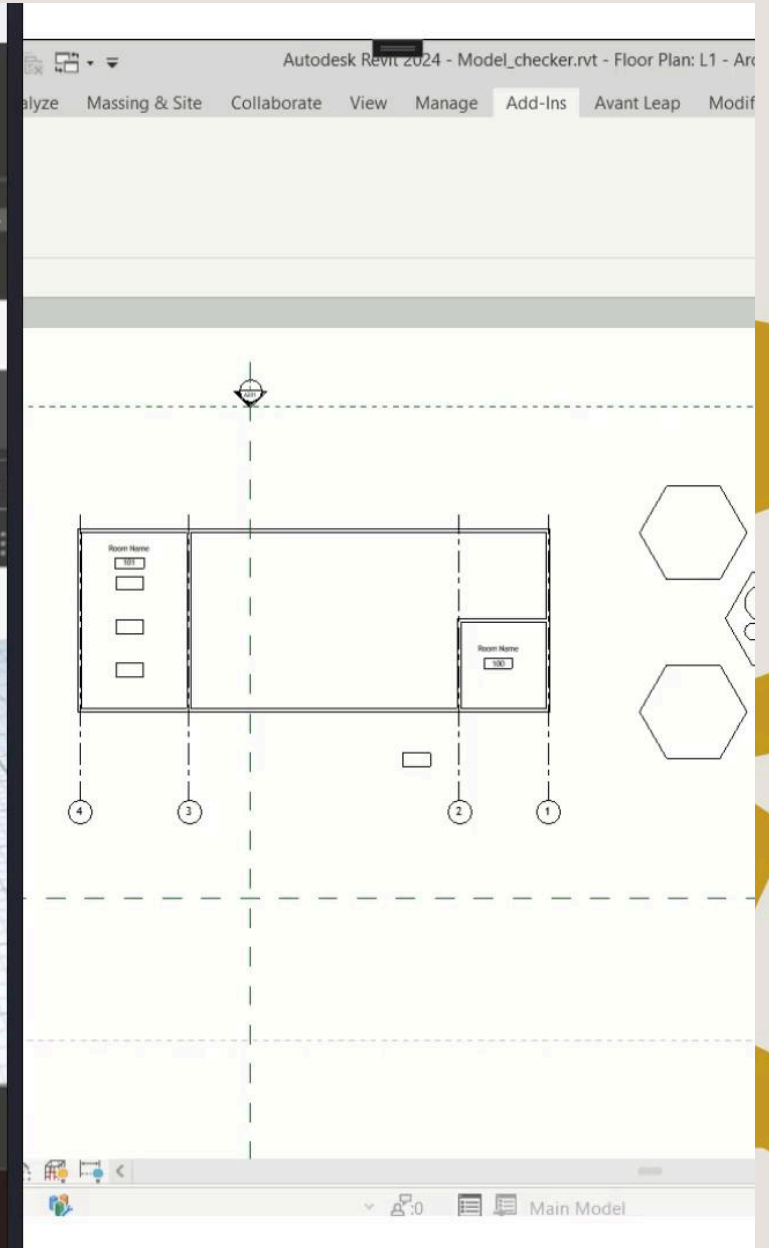
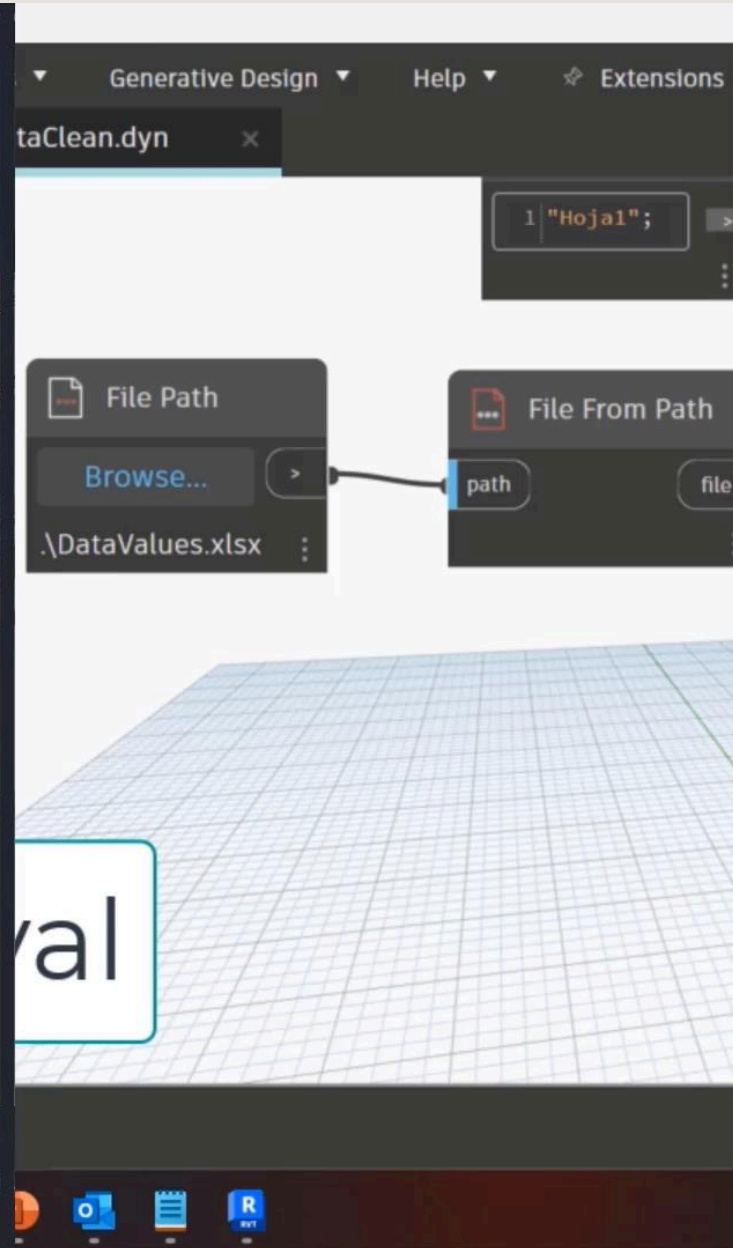
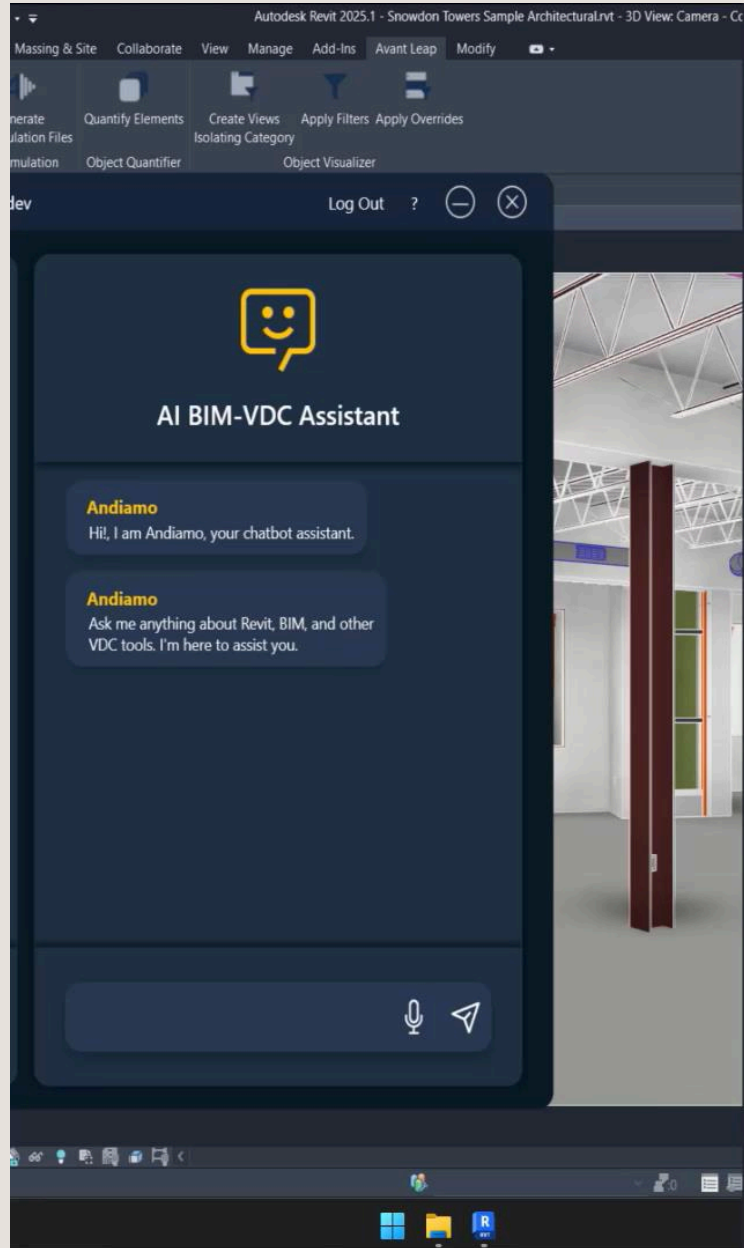
MEP ENGINEERING



STRUCTURAL PREFABRICATION



BIM DATA ASSISTANCE



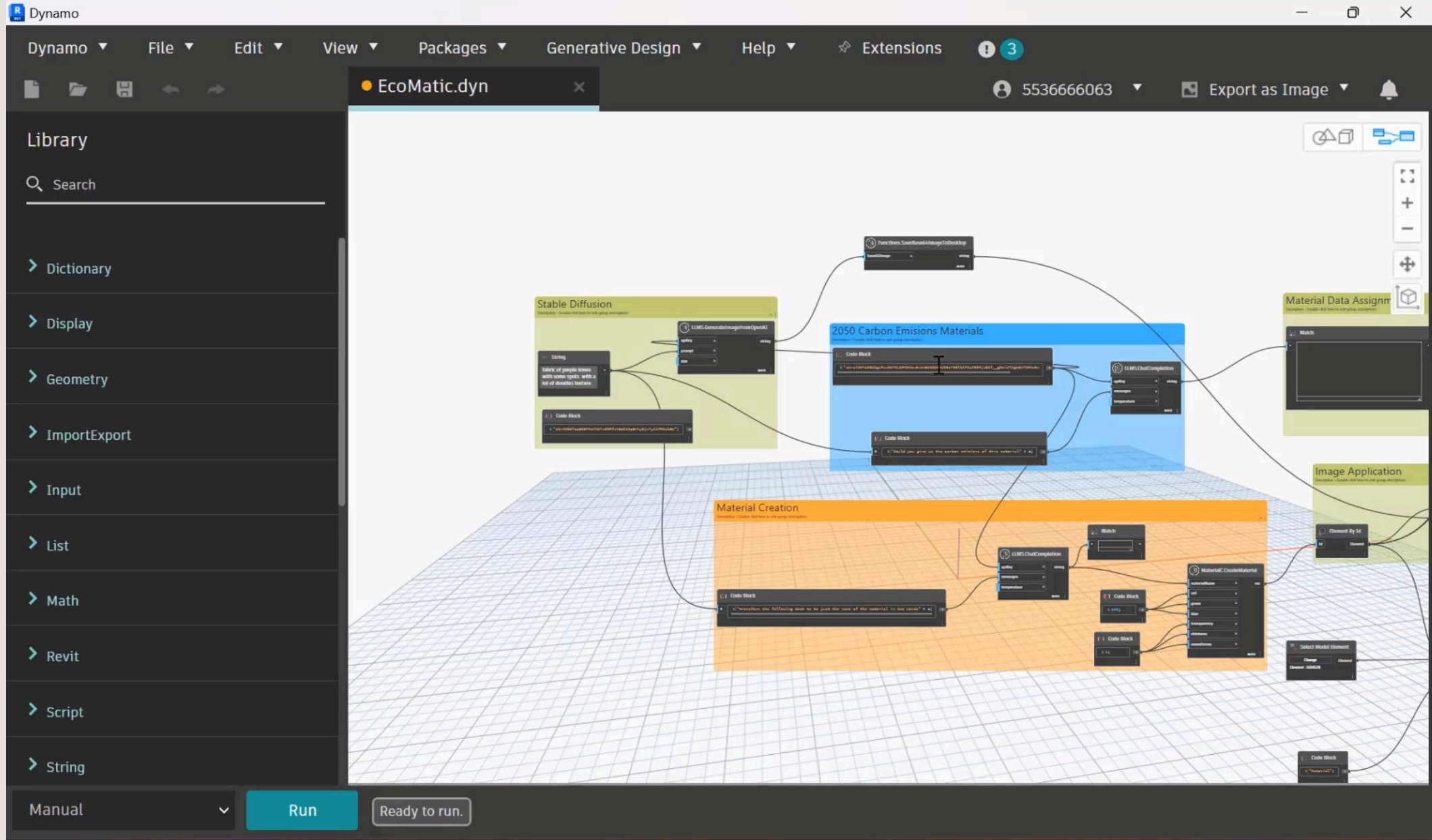
ENERGY AND WATER MANAGEMENT

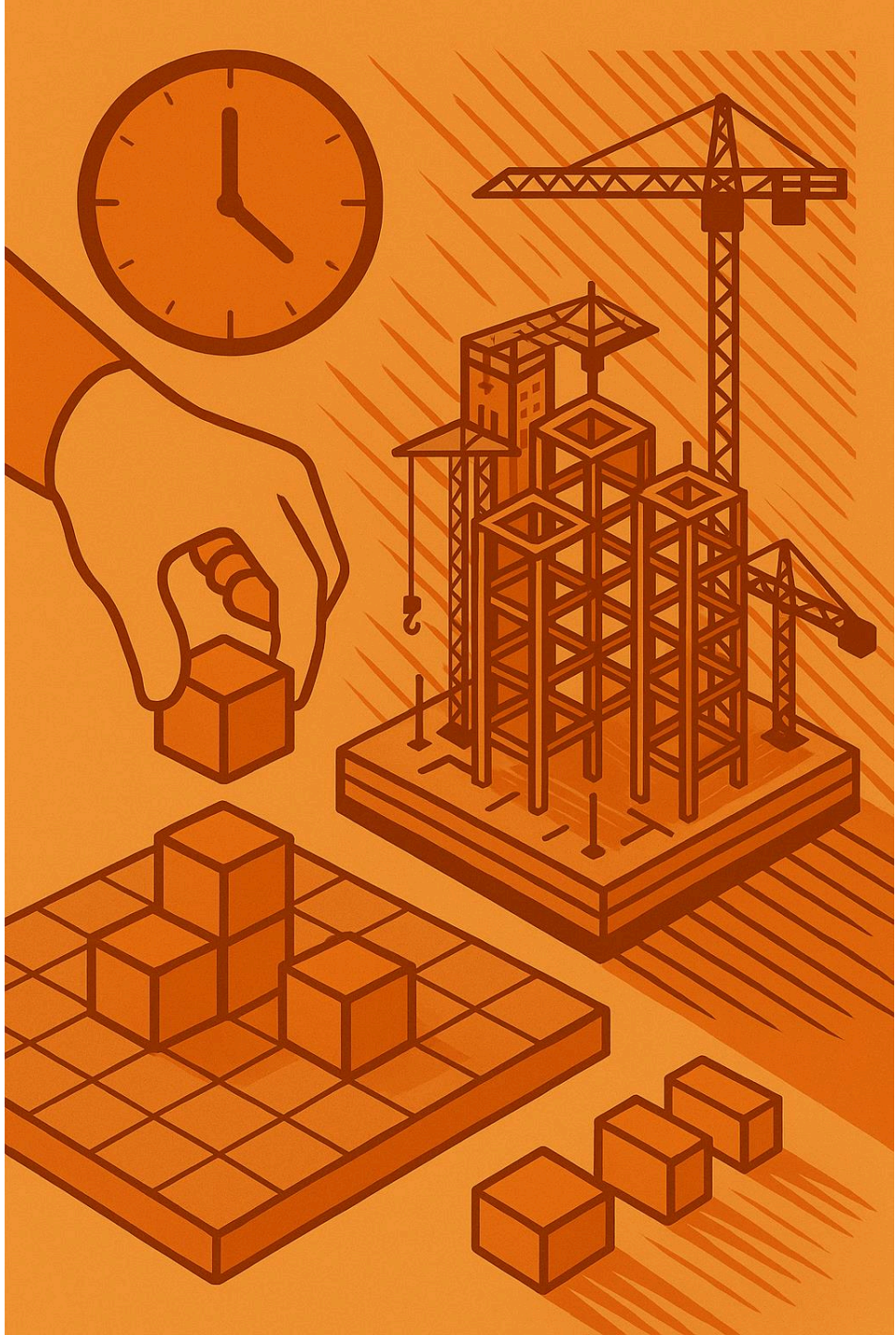


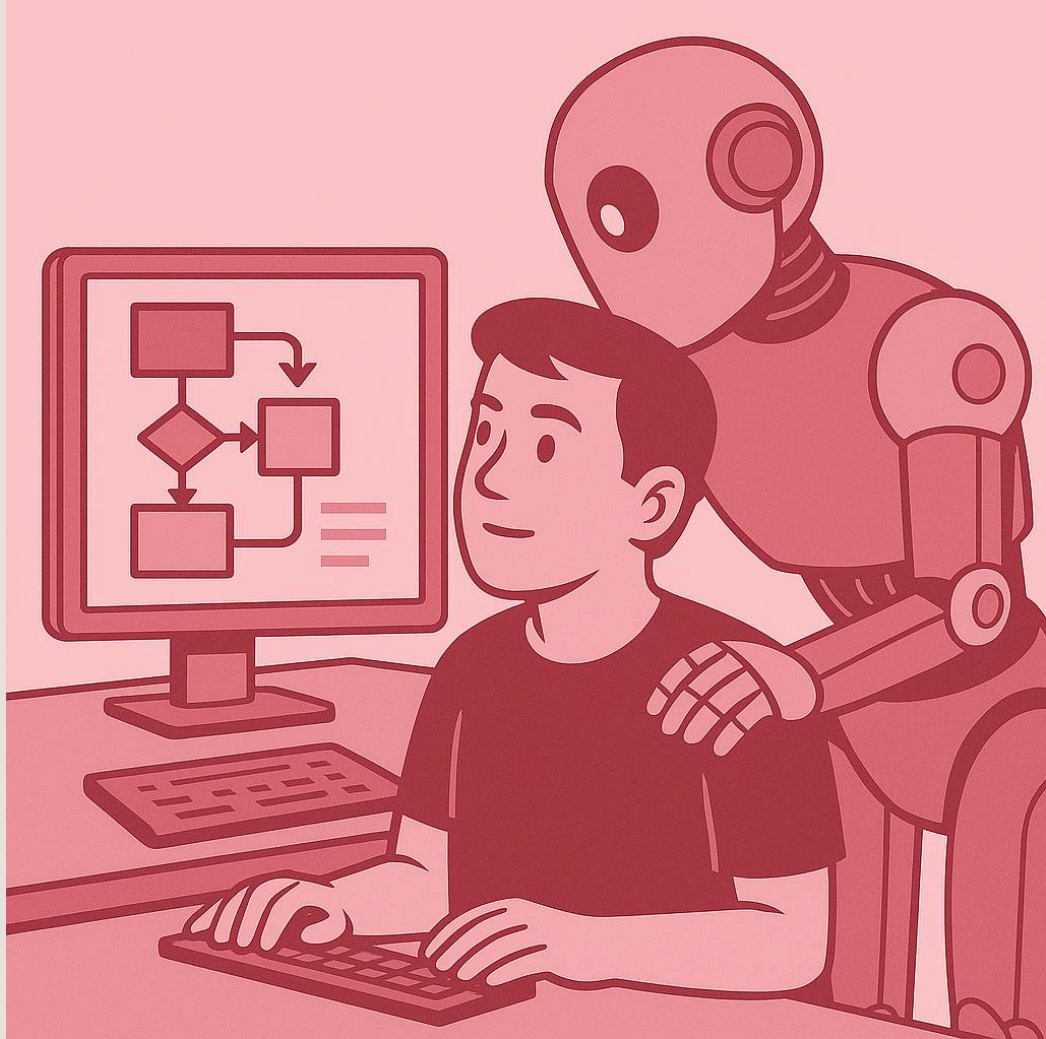
AI GENERATION TO 3D



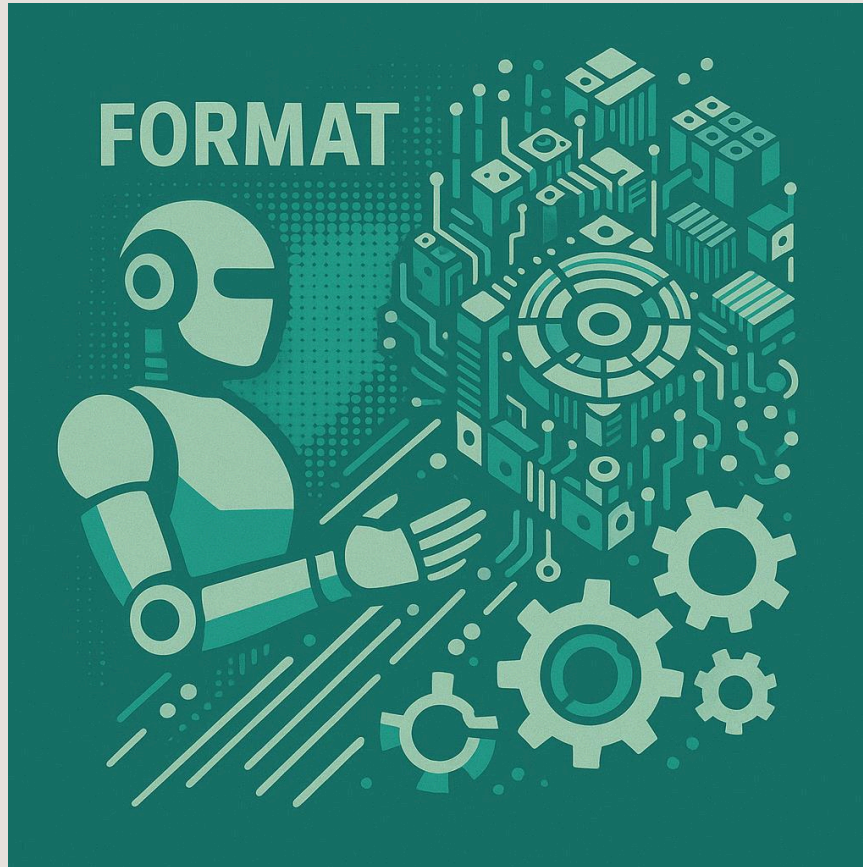
SUSTAINABLE MATERIAL MANAGEMENT

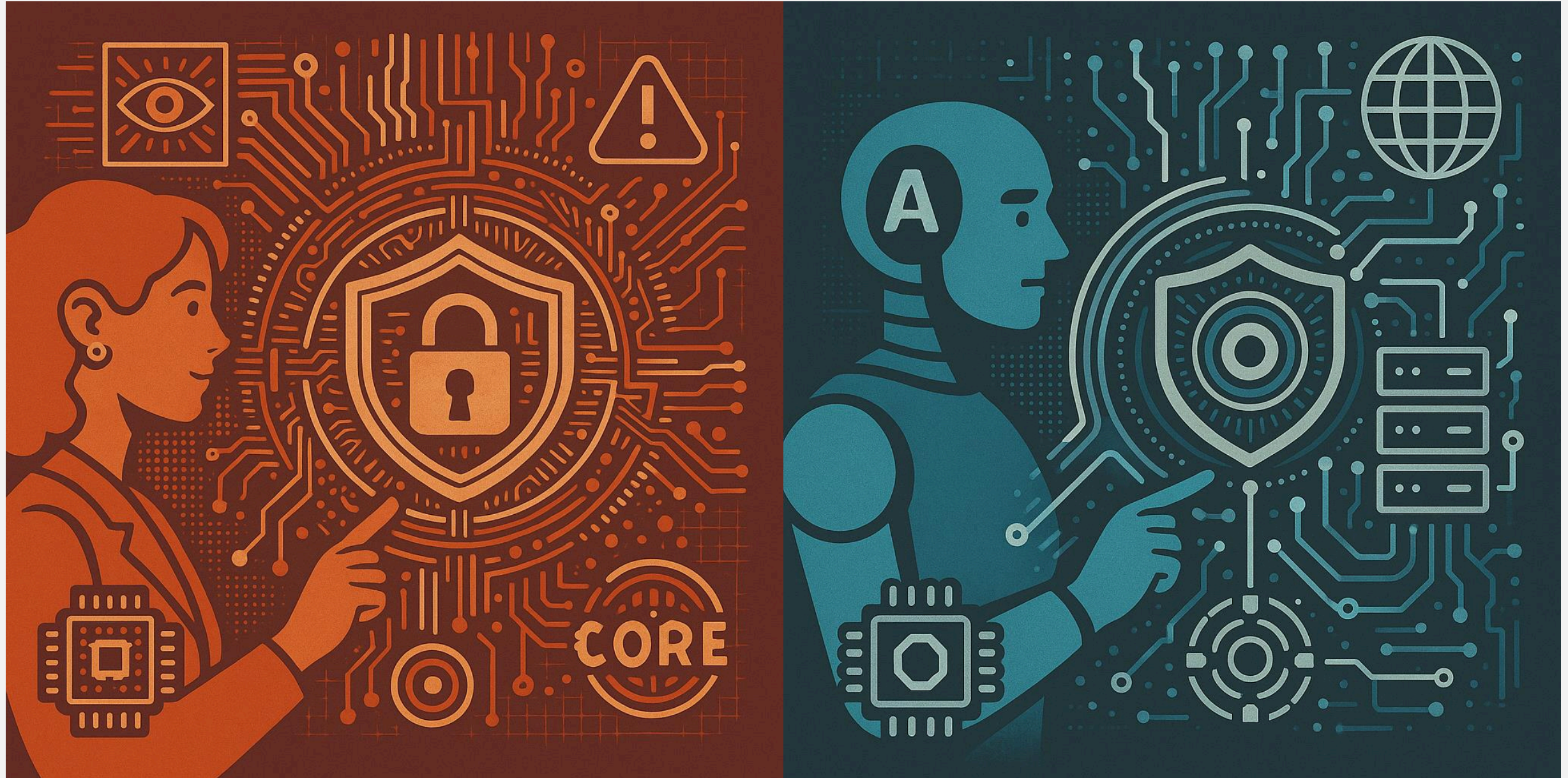






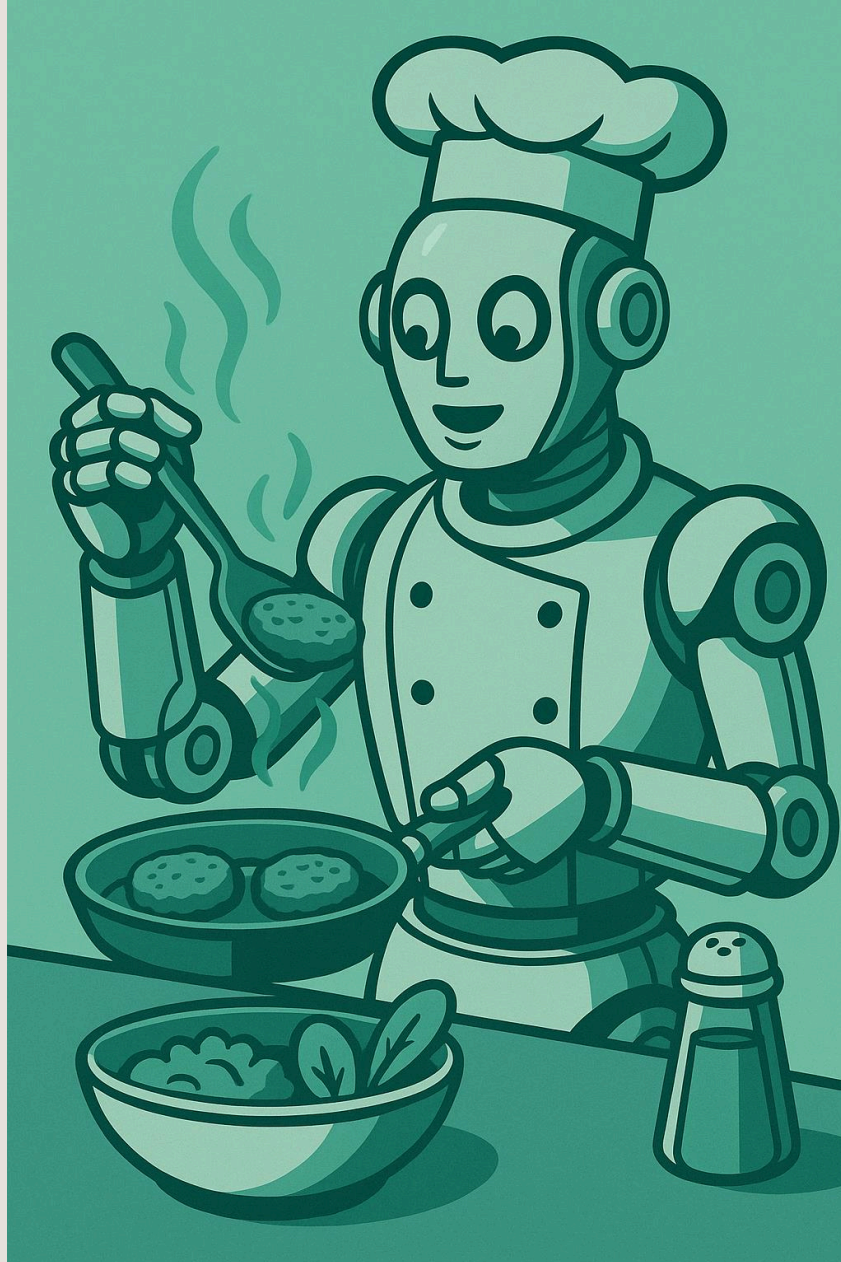






What You Can Actually Do on Monday

- **Choose 1 rule** to apply
- **Use a sample or change it with logic** (if/then)
- **Apply it** in a test model and **color the result**
Share Results content and then repeat





Instead of

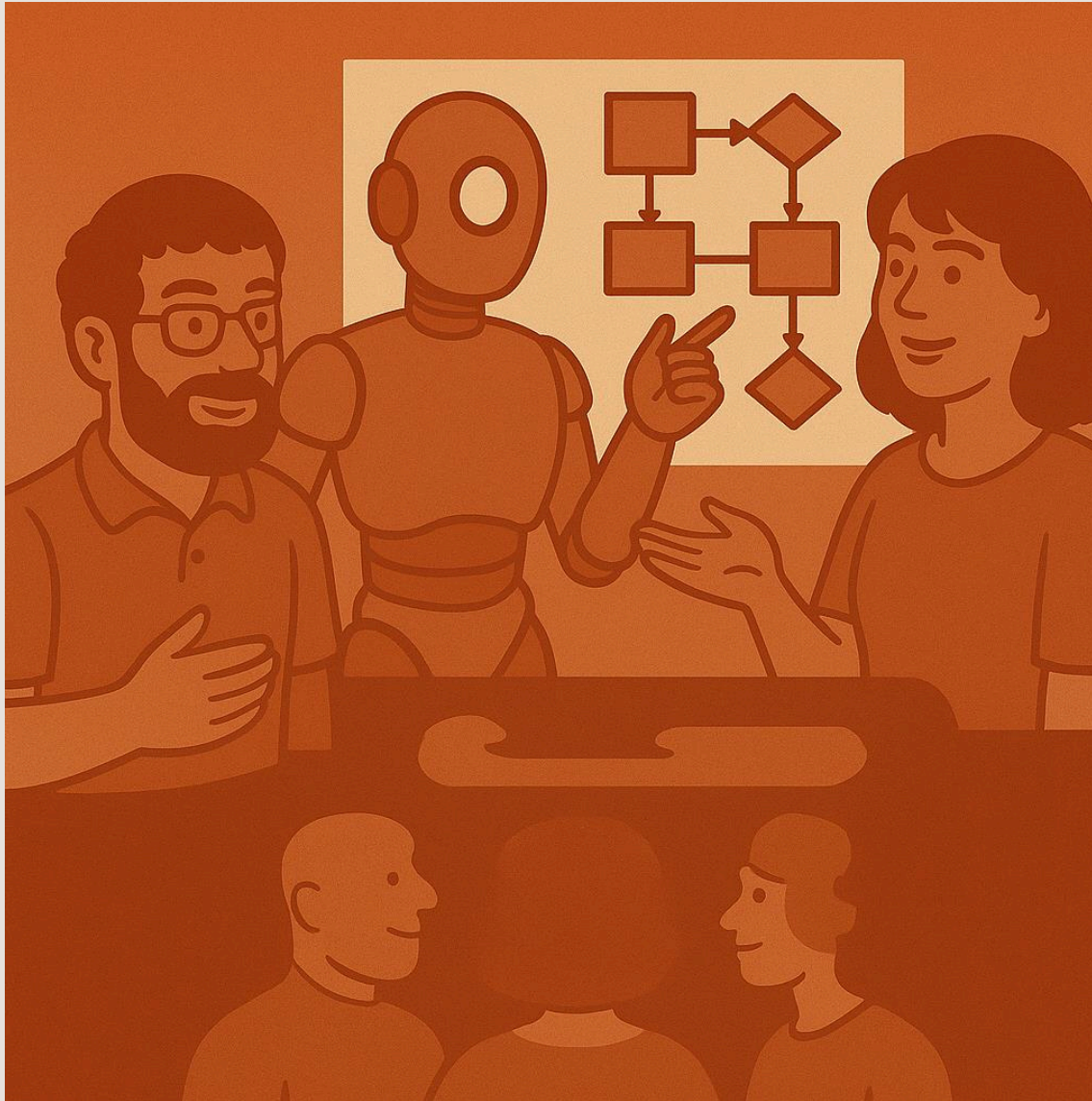
“I saw some advanced automation thing.”

You can share:

“We can check WWR before code review.”

“We can color rooms by risk zones.”

“We don’t need to guess when to shade anymore.”



Contact Information

Enrique Galicia Tovar – Linked In
AvantLeap





THANK YOU!