## DBWA 2023, Session #212

# Developing Custom Model Health Dashboards (with Dynamo and Power BI)

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### BYOD\* LAB Installation Instructions

## Installation Instructions

\*Note: All Labs require attendees to bring your own device

## Required Software/Tools

* Autodesk Revit 2021 preferably
  + 2022+ are OK but our sample files are version 2021
  + Dynamo, with packages installed (minimum & current):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Package** | **Min  Version** | **Current  Version** | **Purpose** | **Related Metrics** |
| archi-lab.net | 2020.23.2 | 2023.213 | get information regarding Warnings and associated elements | Warnings, Warning Severity, Warning Counts |
| Bakery | 2019.5.8 | 2019.5.8 | collect information regarding external references, including families, imports, and links; get element-level information | In-Place Families, Links, Placed Elements |
| Clockwork for Dynamo (1.x or 2.x) | 1.0.3 or 2.3.0 | 2.4.0 | extract file meta data and specific types of element-level data | File Version |
| Modelical | 2.2.19 | 2022.6.15 | gather information regarding the purgeability of elements | View Templates, Filters, Line Patterns |
| spring nodes | 204.1.0 | 210.1.1 | allows the addition of custom scripts for dynamo maps, e.g. precisely extracting file meta data | File Size |
| Monocle | 2020.7.16 | 2023.2.1 | package identification and Dynamo graph cleanup | (none) |

* Power BI Desktop (with March 2023 updates or later)
  + Free version works for this lab
  + Pro (or higher) recommended if you want to publish and share
* A spreadsheet editor (Excel, Google Sheets are fine)

## Background Knowledge

* Basic familiarity with Revit and Power BI (desktop + web service) is recommended
* General understanding of BIM and why model health metrics can affect performance of a model in a work-sharing environment
* Data modelling, database architecture are helpful in customizing the report but not strictly necessary for this lab
* No Dynamo background is necessary, but helpful to understand:
  + what it is, what it can do
  + how to install packages
  + how to execute a Dynamo map we provide

## Additional Recommendations

* A second portable monitor to facilitate development.
* Copy of a mid-sized model of your choosing to run our Dynamo scripts on

**Notes regarding Power BI Pro versions**

* Users with a Power BI Pro may publish content to the web service. If users wish to try this during the lab, we recommend they have a Power BI workspace set up prior
* Users with a free Power BI license cannot publish content, but they may produce the same report offline