MDUG

AECOM Imagine it. Delivered.

DYNAMO PARA TODOS

LUIS JAVIER LÓPEZ

UN NIVEL DE COMPLEJIDAD PARA CADA TAREA

¿Y este… quién es?

- Arquitecto
  - Coordinador BIM AECOM
- Estudiante ingeniería informática
  - Enfocado al desarrollo de software
- Amante de las nuevas tecnologías
  - Impresión 3d
  - Varios cursos de programación e inteligencia artificial
  - Python
  - C#
- Profesor en Tutellus
  - Dynamo

AECOM

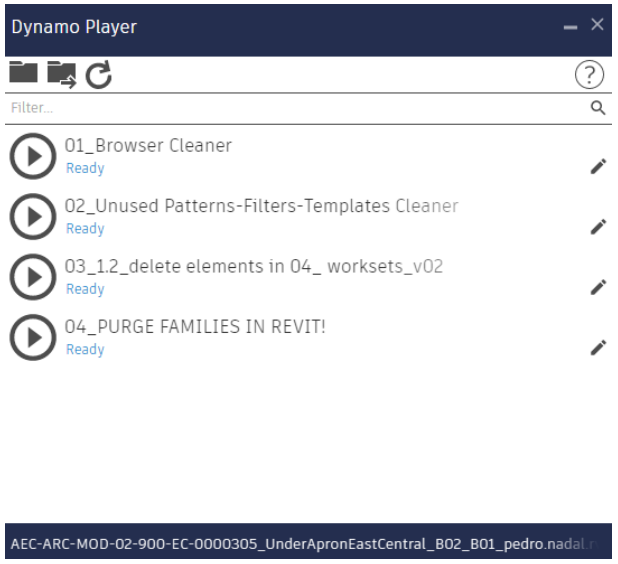
UN NIVEL DE COMPLEJIDAD PARA CADA TAREA

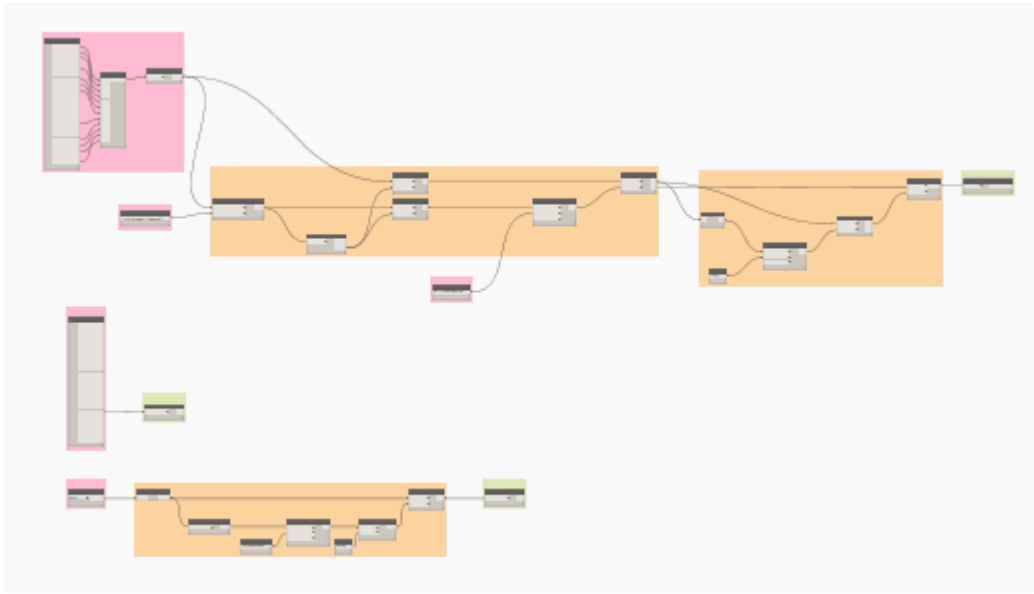
- USO BÁSICO
  - NODOS BUILT IN Y PAQUETES
    - POTENCIA DESDE EL INICIO
      - MANTENIMIENTO DIARIO DE MODELOS
- USO INTERMEDIO
  - NODOS PERSONALIZADOS Y PYTHON BÁSICO
    - SCRIPTING BÁSICO EN PYTHON
      - TAREAS COTIDIANAS COMPLEJAS
- USO AVANZADO
  - PYTHON AVANZADO
    - POO Y EL USO DE FUNCIONES, CLASES Y LIBREARIAS PROPIAS
      - LA CALIDAD EN GRANDES PROYECTOS

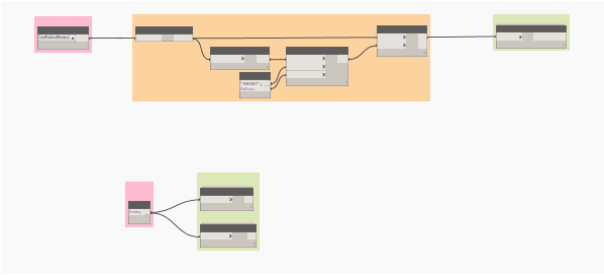
AECOM

USO BÁSICO
NODOS BUILT IN Y PAQUETES

Model cleaning workflow

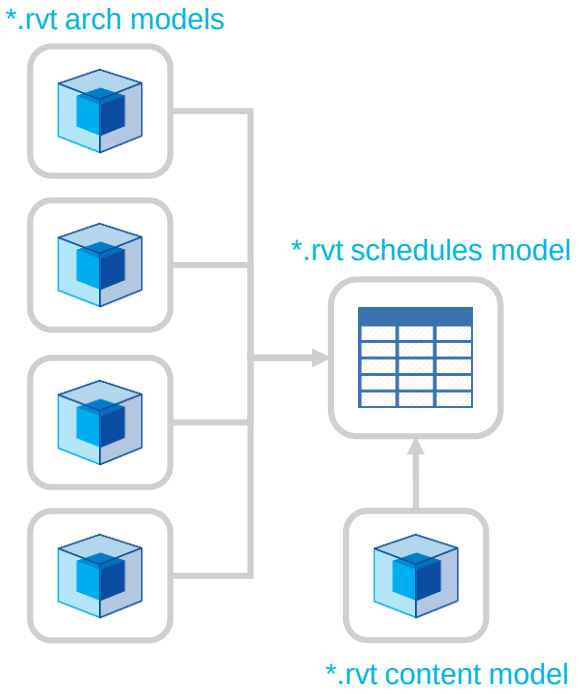




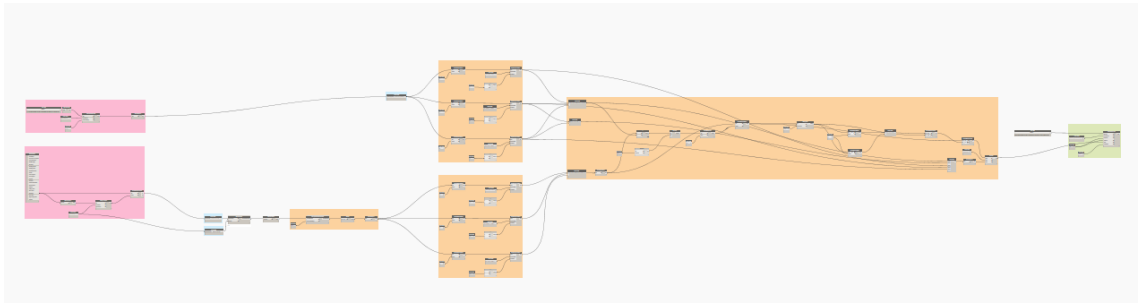


USO BÁSICO
NODOS BUILT IN Y PAQUETES

Family quality control workflow

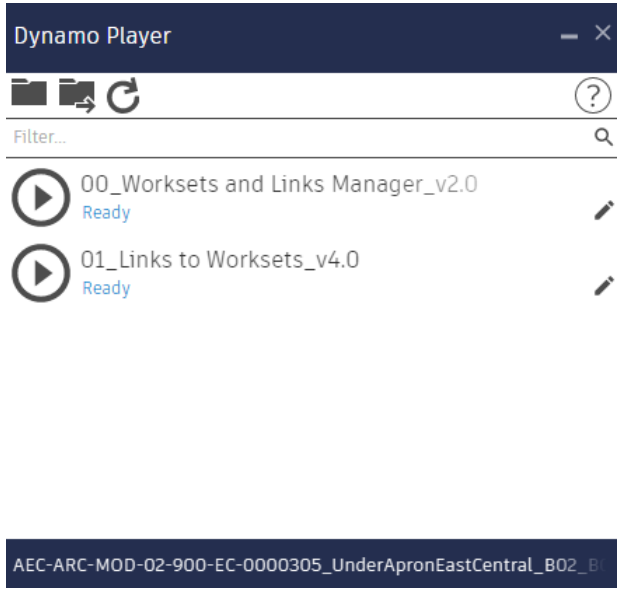


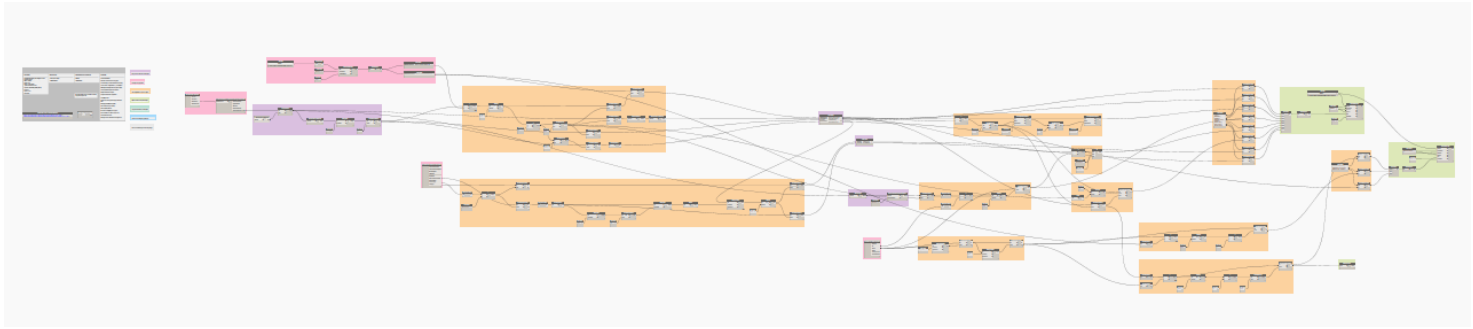
VS



USO BÁSICO
NODOS BUILT IN Y PAQUETES

Workset maintenance workflow



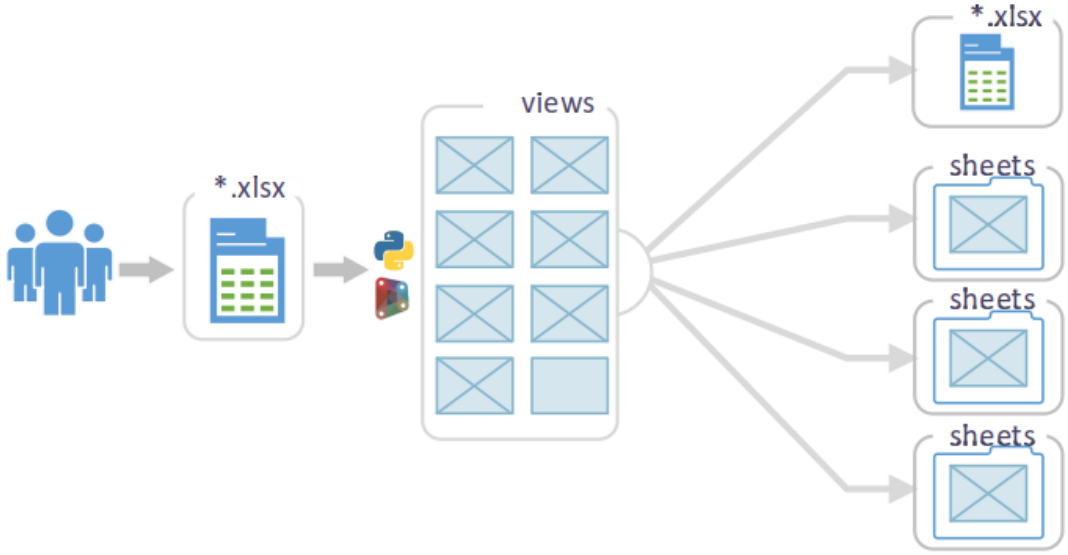


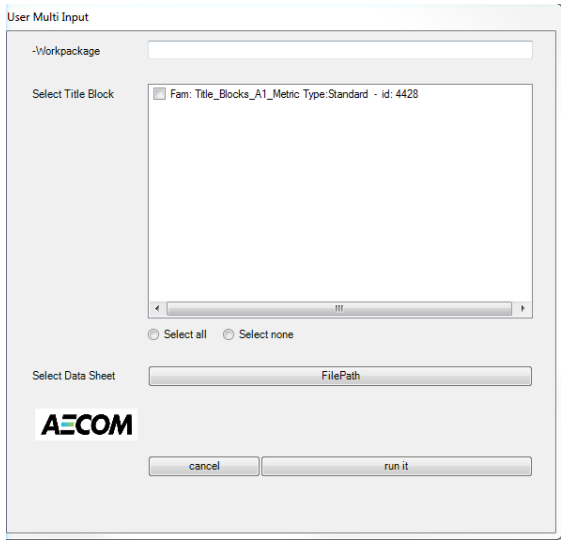
	A	B	C	D	E	F	G	H
1	LINK	WORKSET	REPORT	WORKSET TYPE	REPORT	SHOULD BE	PATH TYPE	SAVED PATH
2	AEC-ARC-MOD-02-900-	02_LINK_RVT_AEC_ARC	Correct!	02_LINK_RVT_AEC_ARC	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
3	AEC-ARC-MOD-02-900-	02_LINK_RVT_AEC_ARC	Correct!	02_LINK_RVT_AEC_ARC	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
4	AEC-ARC-MOD-02-900-	02_LINK_RVT_AEC_ARC	Correct!	02_LINK_RVT_AEC_ARC	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
5	AEC-ARC-MOD-02-900-	02_LINK_RVT_AEC_ARC	Correct!	02_LINK_RVT_AEC_ARC	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
6	AEC-ARC-MOD-02-900-	02_LINK_RVT_AEC_ARC	Wrong!	02_LINK_RVT_AEC_ARC	Wrong!	02_LINK_RVT_GMW_AI	Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
7	AEC-ARC-MOD-02-900-	02_LINK_RVT_AEC_ARC	Correct!	02_LINK_RVT_AEC_ARC	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
8	AEC-ARC-MOD-02-900-	02_LINK_RVT_AEC_ARC	Correct!	02_LINK_RVT_AEC_ARC	Correct!		Relative	K:\02_TEB\ARC_AECGM\BIM_Models\
9	AEC-ARC-MOD-02-900-	02_LINK_RVT_AEC_ARC	Correct!	02_LINK_RVT_AEC_ARC	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
10	AEC-ARC-MOD-02-900-	02_LINK_RVT_AEC_ARC	Correct!	02_LINK_RVT_AEC_ARC	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
11	AEC-ARC-MOD-02-900-	02_LINK_RVT_AEC_SPE	Correct!	02_LINK_RVT_AEC_SPE	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
12	AEC-BIM-MOD-00-000-	02_LINK_RVT_AEC_BIM	Correct!	02_LINK_RVT_AEC_BIM	Correct!		Absolute	K:\00_COR\00_BIM_AECBM\Coordinat
13	AEC-BIM-MOD-00-000-	02_LINK_RVT_AEC_BIM	Wrong!	02_LINK_RVT_AEC_BIM	Wrong!	02_LINK_RVT_GMW_AI	Absolute	K:\00_COR\00_BIM_AECBM\Coordinat
14	AEC-BIM-MOD-02-000-	02_LINK_RVT_AEC_BIM	Correct!	02_LINK_RVT_AEC_BIM	Correct!		Absolute	K:\00_COR\00_BIM_AECBM\Coordinat
15	GMW-ARC-MOD-02-90	02_LINK_RVT_GMW_AI	Correct!	02_LINK_RVT_GMW_AI	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
16	GMW-ARC-MOD-02-90	02_LINK_RVT_GMW_AI	Correct!	02_LINK_RVT_GMW_AI	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
17	GMW-ARC-MOD-02-90	02_LINK_RVT_GMW_AI	Correct!	02_LINK_RVT_GMW_AI	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
18	GMW-ARC-MOD-02-90	02_LINK_RVT_GMW_AI	Correct!	02_LINK_RVT_GMW_AI	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\
19	GMW-ARC-MOD-02-90	02_LINK_RVT_GMW_AI	Correct!	02_LINK_RVT_GMW_AI	Correct!		Absolute	K:\02_TEB\ARC_AECGM\BIM_Models\

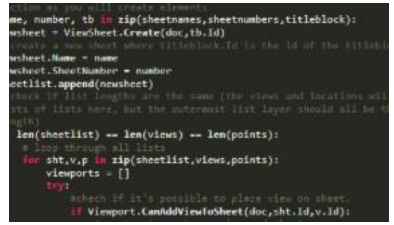
	A	B	C
1	CREATED WORKSETS	WORKSETS TO DELETE	MODELS NOT LISTED
2	02_LINK_RVT_AEC_ARC_WC	02_LINK_RVT_GMW_ARC_N	AEC-ARC-MOD-02-900-EC-0(
3	02_LINK_RVT_AEC_ARC_XX_	02_LINK_RVT_GMW_ARC_N	
4	02_LINK_RVT_AEC_ARC_XX_	02_LINK_RVT_GMW_ARC_N	
5	02_LINK_RVT_AEC_SPE_Fire	02_LINK_RVT_GMW_ARC_N	
6		02_LINK_RVT_GMW_ARC_N	
7		02_LINK_RVT_GMW_ARC_W	
8		02_LINK_RVT_GMW_ARC_W	
9		02_LINK_RVT_GMW_ARC_W	
10		02_LINK_RVT_GMW_ARC_W	
11		02_LINK_RVT_GMW_ARC_W	
12		02_LINK_RVT_MTT_FSS_EC_	
13		02_LINK_RVT_MTT_HVA_EC	
14		02_LINK_RVT_MTT_PLB_EC_	
15		02_LINK_RVT_PRB_STR_EC_	
16		02_LINK_RVT_PTD_ELC_EC_	
17		02_LINK_RVT_PTD_ELC_EC_	
18			
19			

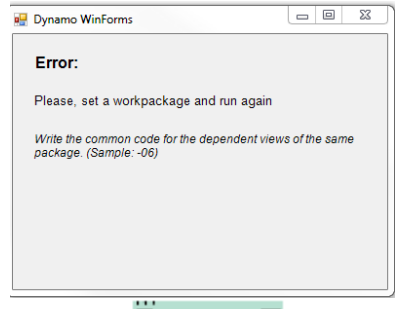
USO INTERMEDIO
NODOS PERSONALIZADOS Y PYTHON BÁSICO

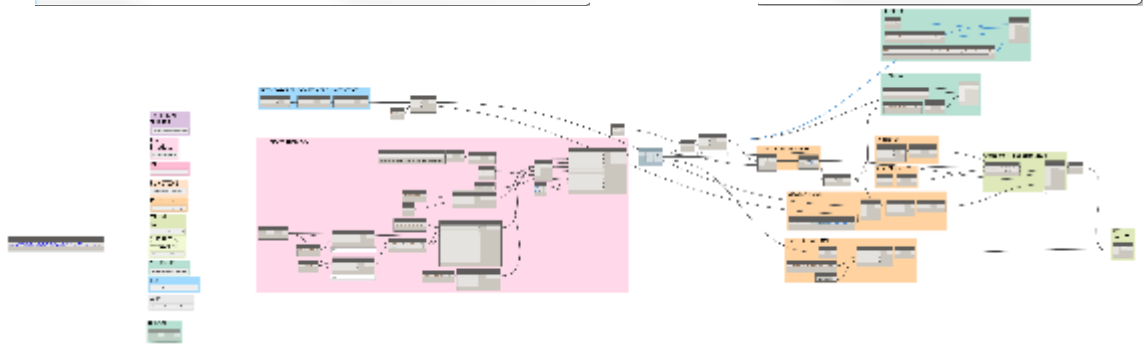
Massive views and sheets creation







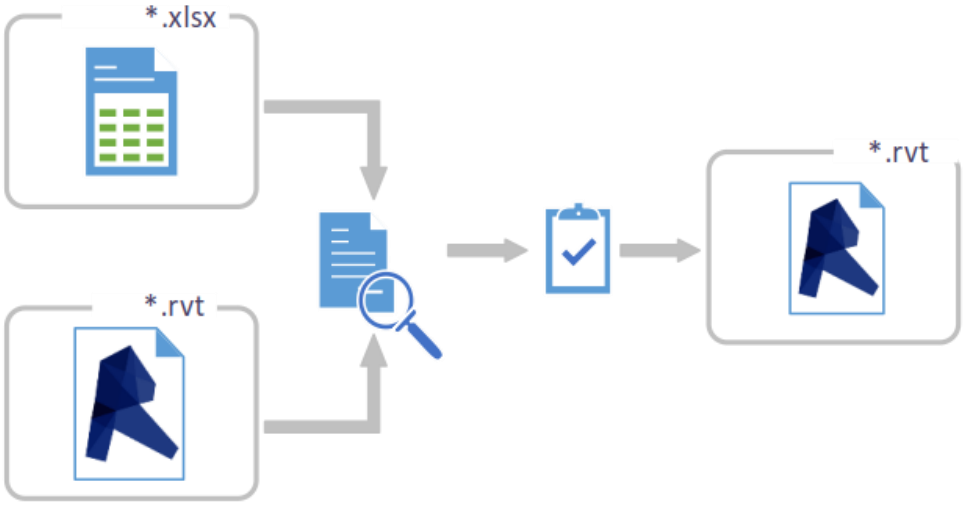


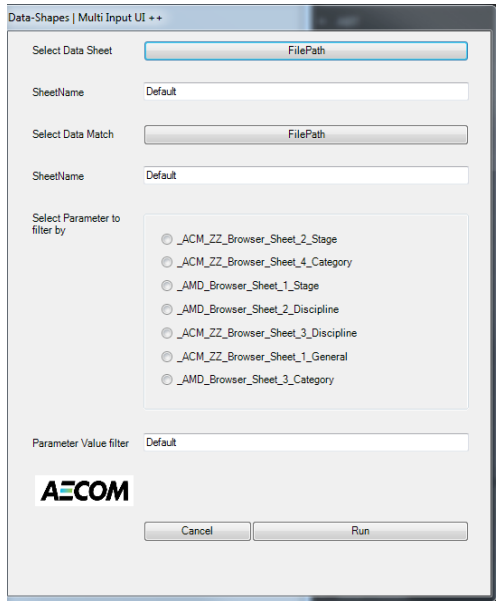


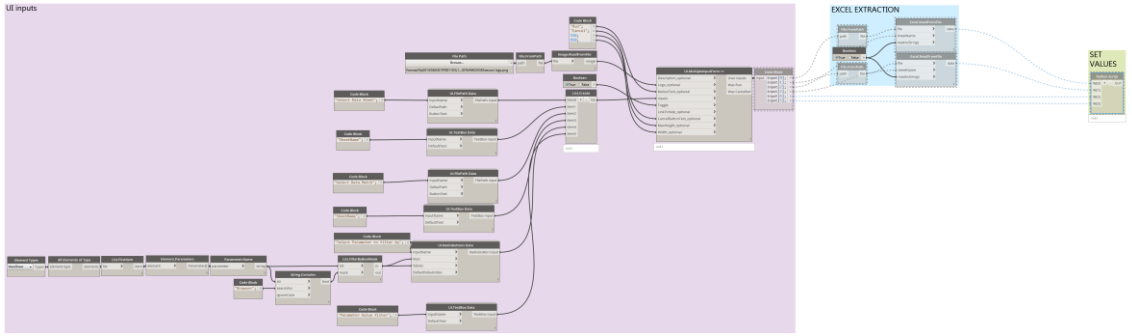
Horas desarrollo: 32h
Ahorro: 164horas/set 1000 planos

USO INTERMEDIO
NODOS PERSONALIZADOS Y PYTHON BÁSICO

Data to Revit





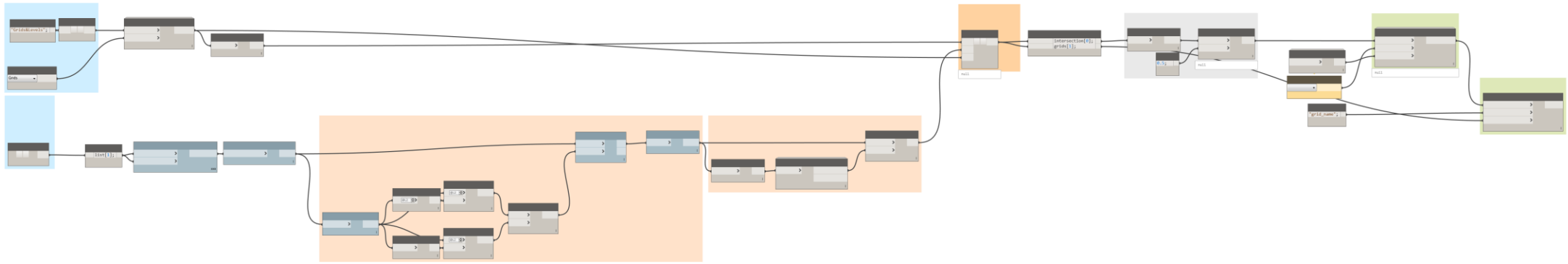


Horas desarrollo: 8h
Ahorro: 16h/entrega

USO INTERMEDIO
NODOS PERSONALIZADOS Y PYTHON BÁSICO

Grids Marks by Scope boxes

```
iname = item.Name
if any ("_100_" in x for x in iname.split()):
    list.append(item)
    try:
        bBox = item.get_BoundingBox(doc.ActiveView)
        #outline = Outline(bBox.Min, bBox.Max)
        cub = bBox.ToProtoType()
        bblist.append(cub)
        """filter1 = BoundingBoxIsInsideFilter(outline)
        collector = FilteredElementCollector
        (doc,elementIdList).WherePasses(filter1).ToElements()
        list.append(collector)"""
    except:
        pass
```

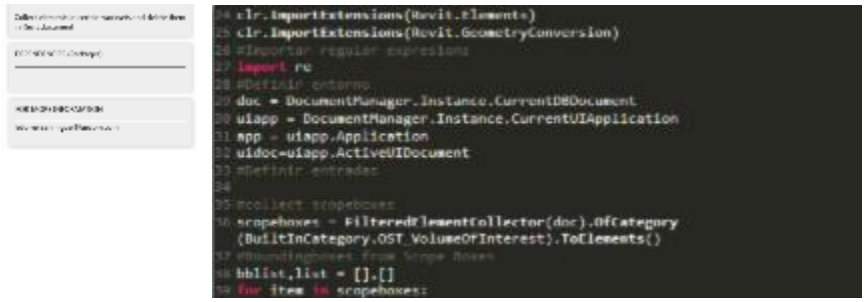


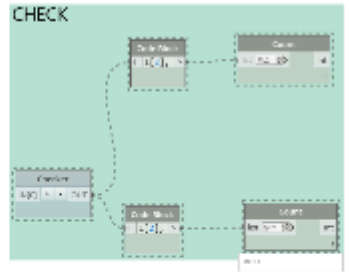
USO INTERMEDIO

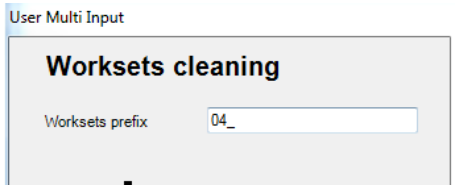
NODOS PERSONALIZADOS Y PYTHON BÁSICO

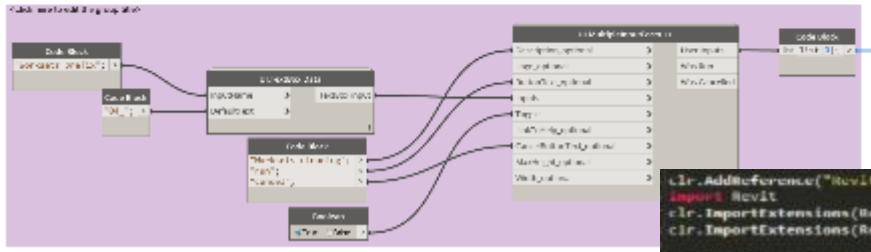
Ids to Elements

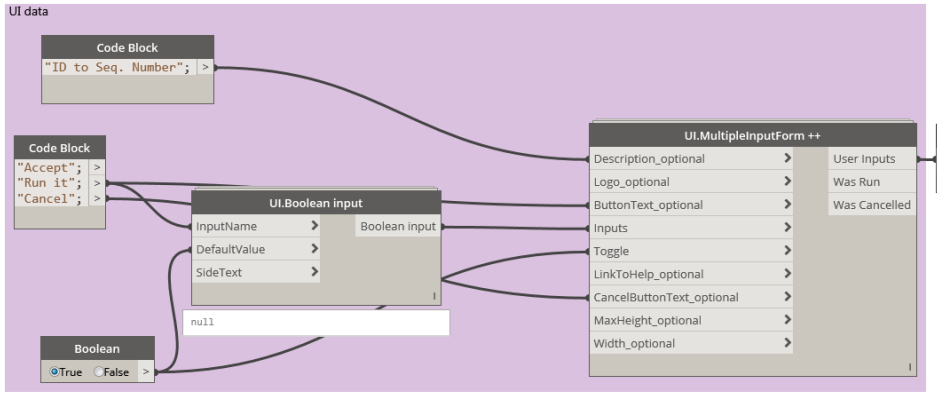
Worksets Cleaner

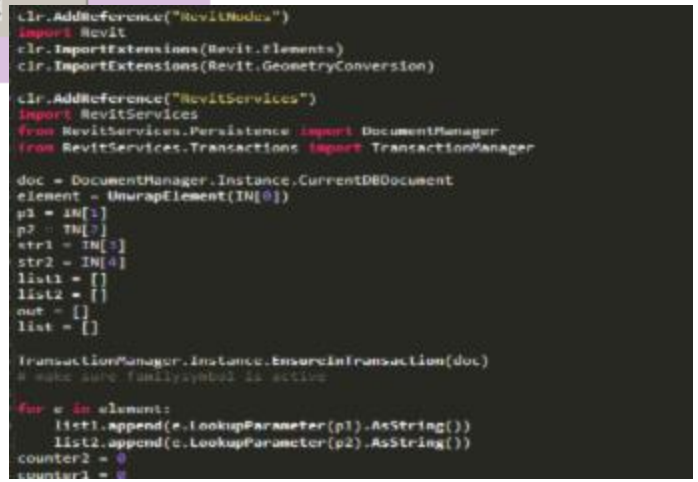






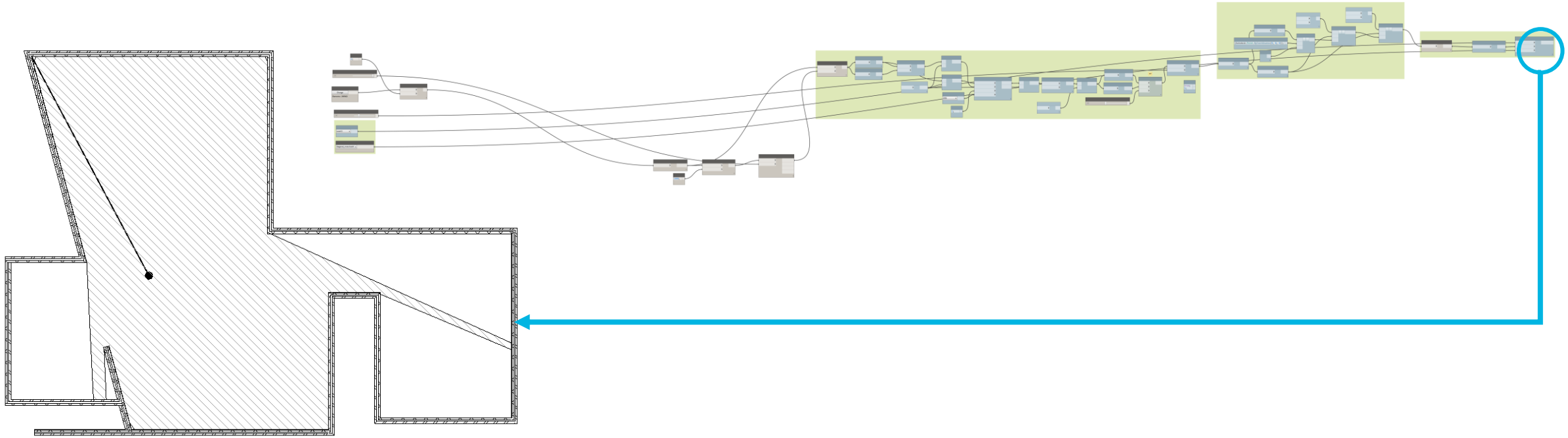






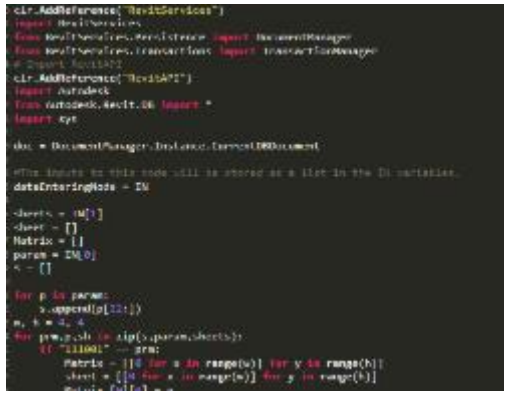
USO INTERMEDIO
NODOS PERSONALIZADOS Y PYTHON BÁSICO

Camera FOV Ray tracer

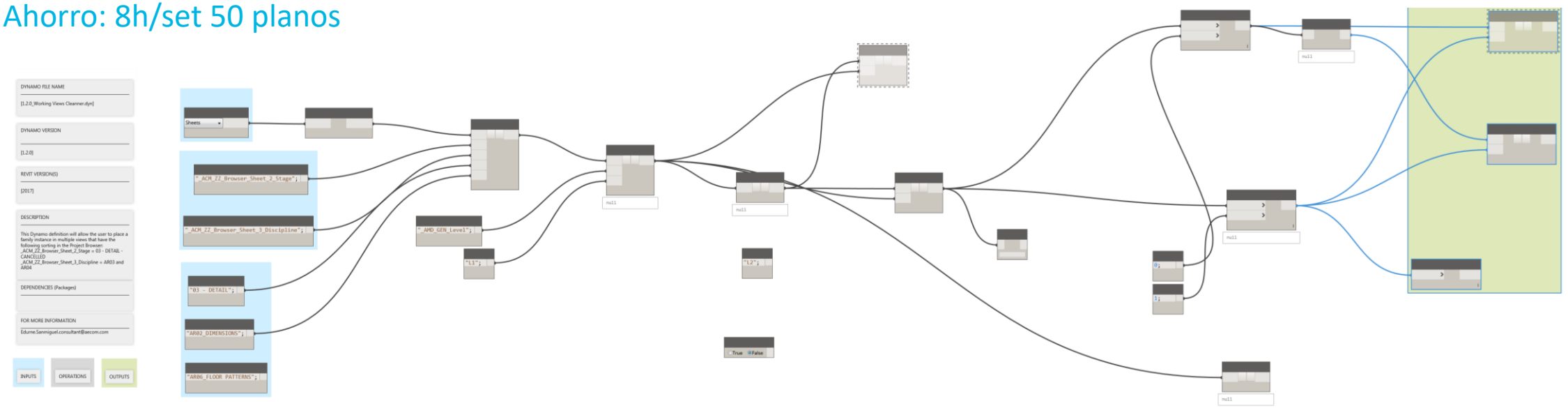


USO AVANZADO
PYTHON AVANZADO

Matchline parameters autofill

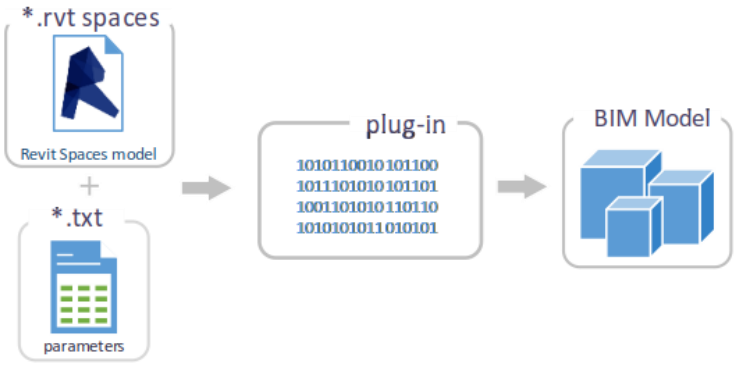


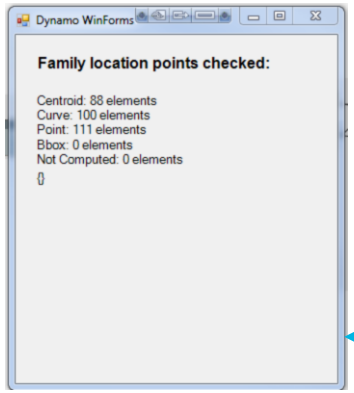
Horas desarrollo: 8h
Ahorro: 8h/set 50 planos

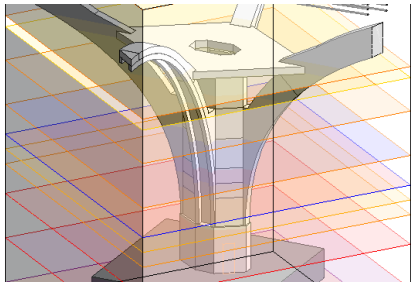


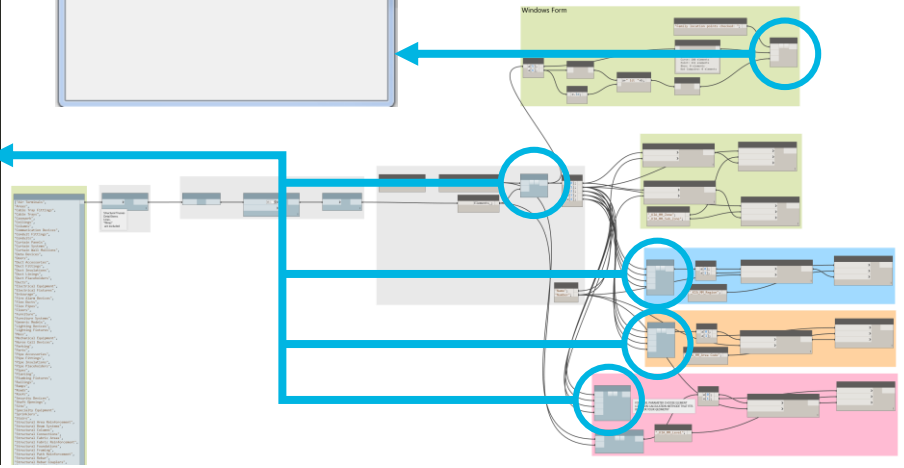
USO AVANZADO
PYTHON AVANZADO

4D LOCATION SCRIPT





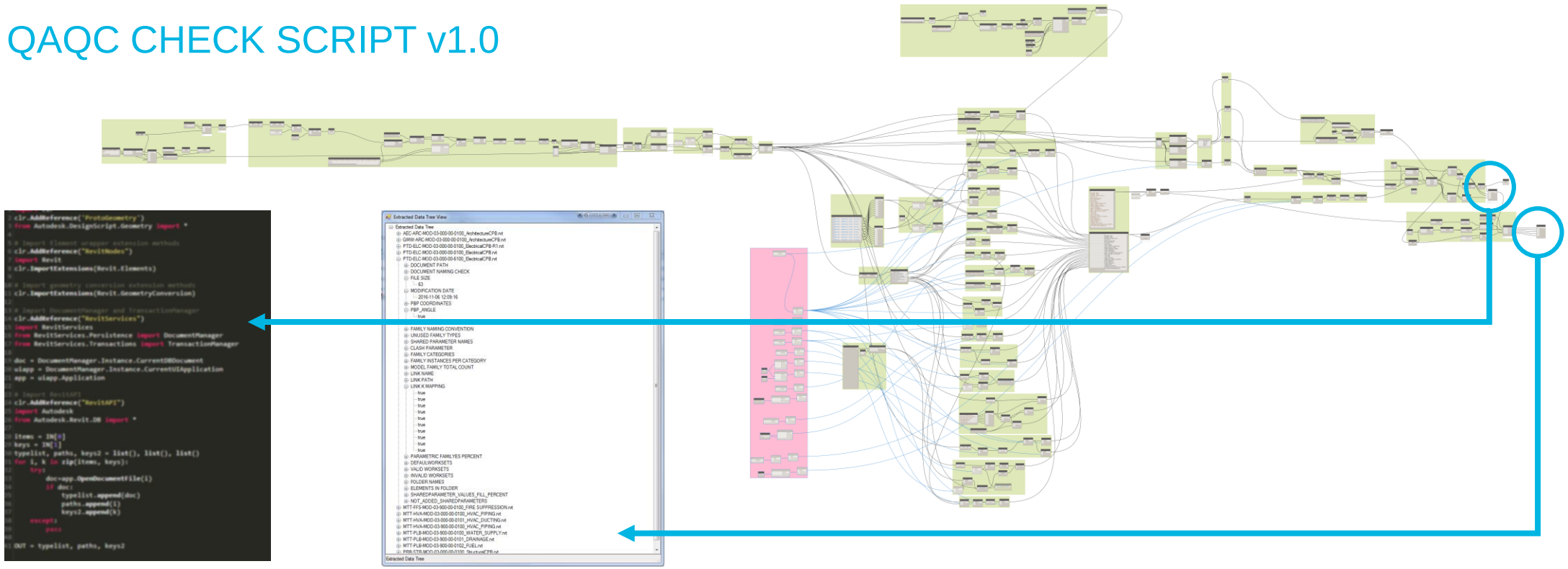




Horas desarrollo: 50h
Ahorro: 3h / modelo
(3000 elementos)

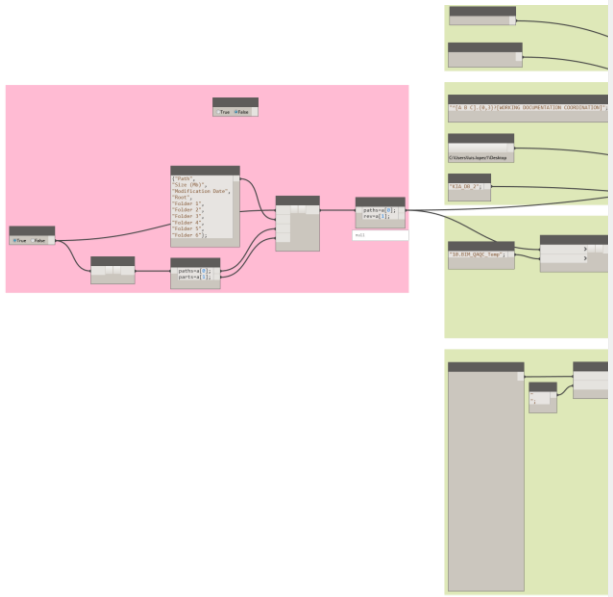
USO INTERMEDIO
NODOS PERSONALIZADOS Y PYTHON BÁSICO

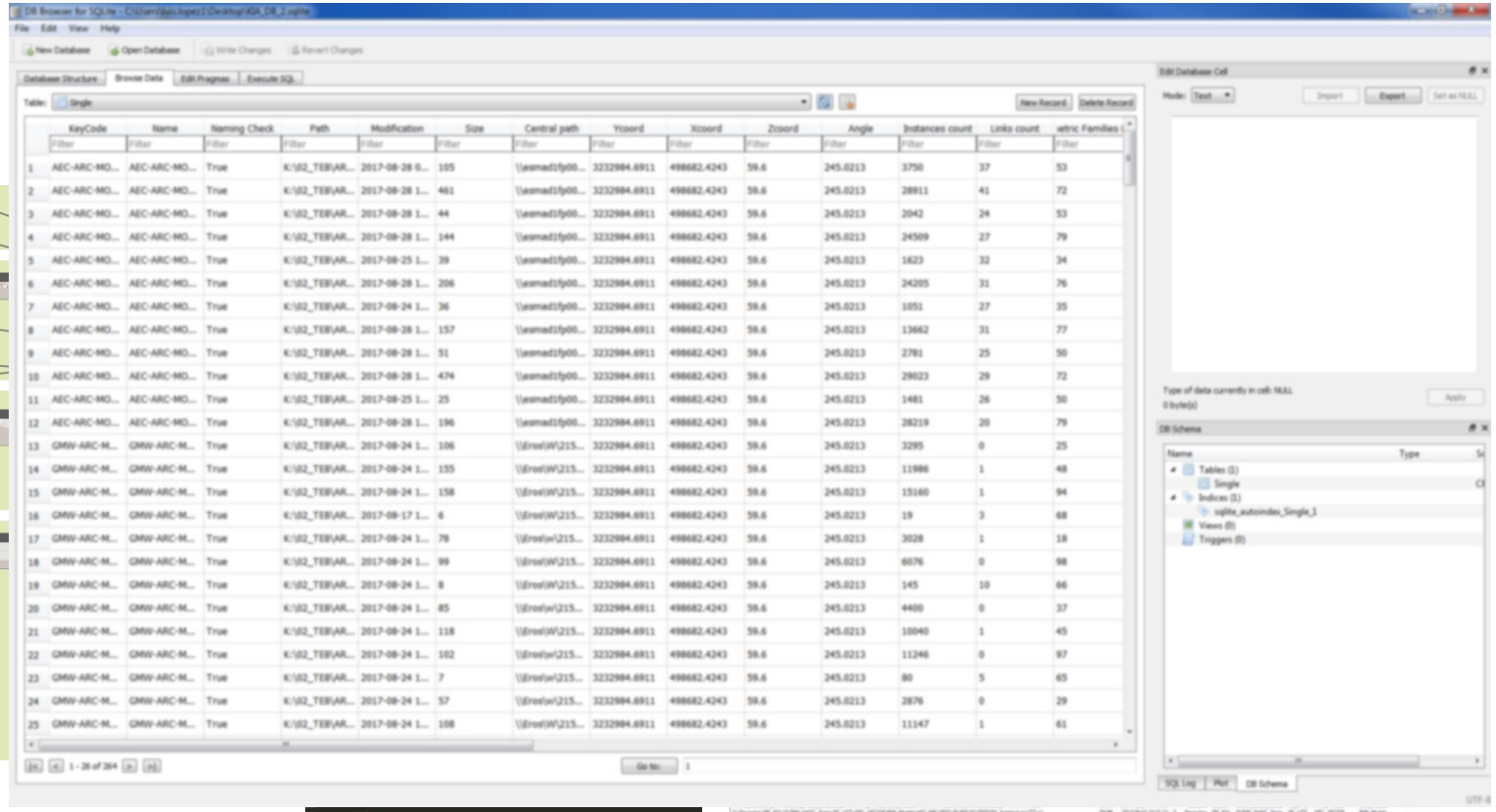
QAQC CHECK SCRIPT v1.0

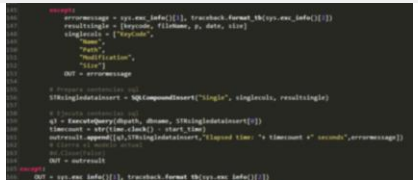


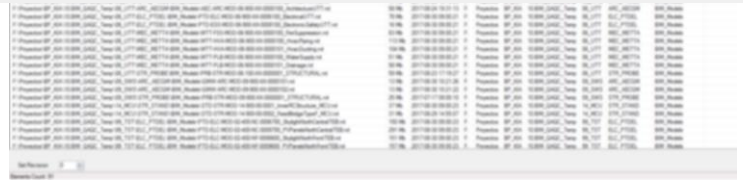
USO AVANZADO
PYTHON AVANZADO

QAQC CHECK SCRIPT v8.0









Horas desarrollo: 100h
Ahorro: 200h / Revisión (200 modelos)

GRACIAS

Con la colaboración de:
Edurne San Miguel
Pedro Nadal

AECOM

MDUG