About the speaker

Matt Wunch

- Owner of SkyViz.io
- FAA Part 107 certified pilot (2+ years)
- Autodesk Expert Elite
- 25 years in the AEC industry
- AUGI Board of Directors
OBJECTIVE 1
Learn what the Schema Editor is, and how to create new attributes for the object classes

OBJECTIVE 2
Learn how to update the attributes using JavaScript inside of InfraWorks

OBJECTIVE 3
Learn how to create Feature Themes to graphically display your extended data

OBJECTIVE 4
Learn how to reuse your custom attribute information in new projects
Datasets

Files are located in C:\DATASETS\CES320023-L InfraWorks Schema Editor\

- 1_Learning Objective 1
  - 1_CES320023-L - Schema Editor.sqlite
- 2_Learning Objective 2
  - 2_CES320023-L - Vegas Import.sqlite
  - 2_CES320023-L - Attribute Update.sqlite
- 3_Learning Objective 3
  - 3_CES320023-L - Feature Themes.sqlite
- 4_Bonus Scripts
  - 4_CES320023-L - Bonus Scripts.sqlite
Setting the Scene
What is the Schema Editor?
Schema Editor

“Allows users to add new properties and information to the elements of their project. Customize data for objects in a model through the extended schema transfer tool. The data can be expanded with multiple fields and each element can be documented as needed. The schema tool can be applied to buildings, parcels, roadways, utilities, and a host of other InfraWorks elements.”

http://www.infrastructure-reimagined.com/infraworks-civil3d-2020/
Schema Editor
Data Types

BOOLEAN – YES / NO
DATETIME – DATE
DOUBLE – 00.00 (FRACTION/WHOLES)
INTEGER – 0
STRING – ANY CHARACTERS

UNDER CONSTRUCTION
YEAR OPENED
ROOM COST / NIGHT
NUMBER OF ROOMS
OWNER
Model Builder created model

Files are located in C:\DATASETS\CES320023-L InfraWorks Schema Editor\

- 1_Learning Objective 1
  - 1_CES320023-L - Schema Editor.sqlite
Schema Editor – Part 1 – Create a New Category
Schema Editor – Part 2 – Create “Owner” Attribute
Schema Editor – Part 3 – Create “Date_Opened” Attribute
Schema Editor – Part 4 – Create “No_of_Rooms” Attribute
Schema Editor – Part 5 – Create “Avg_Cost” Attribute
Schema Editor – Part 6 – Create “Under_Construction” Attribute
Schema Editor – Part 7 – Apply Schema
Schema Editor – Part 8 – Change Schema
Create a new Proposal – AU2019
Delete Existing Buildings
Import Vegas models

Files are located in C:\DATASETS\CES320023-L InfraWorks Schema Editor\

- 2_Learning Objective 2
  - 2_CES320023-L - Vegas Import.sqlite
  - 2_CES320023-L - Attribute Update.sqlite
Import CyberCity 3D Building Models
Configure Data Sources
Update Attributes w/JavaScript
```javascript
} else if (invalidateTC) {
    app.InvalidateTileCache(db.TableIndex("BUILDINGS"), extent);
}
return;

var csvFile = file.ReadFile("C:/Temp/Building_Data.csv"); // OPEN THE .CSV FILE FOR READING
var csvString = csvFile.split("\n"); // READ EACH LINE OF THE .CSV FILE. "\n" INDICATES A CARRIAGE/LINE RETURN
for (var i = 1; i < csvString.length; i++) { // LOOP THROUGH THE CSV FILE UNTIL THE END
    var strLine = csvString[i].split(","); // SPLIT EACH LINE INTO INDIVIDUAL ENTRIES USING A COMMA (",") DELIMITER
    if (strLine.length < 6)
        continue;
    buildingUpdate(strLine[0], strLine[2], strLine[3], strLine[4], strLine[5], strLine[6]); // RUN THE BUILDING UPDATE FUNCTION
```
Create Feature Themes
What Are Feature Themes?

ALLOW YOU TO VISUALLY CLASSIFY ASSETS ACCORDING TO THEIR ATTRIBUTES.

IN OTHER WORDS… YOU CAN COLOR-CODE YOUR DATA.
How Do We Create A Feature Theme?
How to Reuse Custom Attributes
Re-use Custom Attributes

Export Schema to .JSON file

Import .JSON file
Do NOT Delete the .JSON File
BONUS – JavaScript Tools

RANDOMIZE OBJECTS

Trees – 4_Randomize Objects - Trees.js
City Furniture – 4_Randomize Objects - City Furniture.js
City Furniture (Parked Cars) –
  4_Randomize Objects - City Furniture PARKED CARS.js

SNAPSHOTS

Batch Snapshots – 4_Batch Snapshot.js