Program Creation and Validation

with Spreadsheet Link and Room Family Manager

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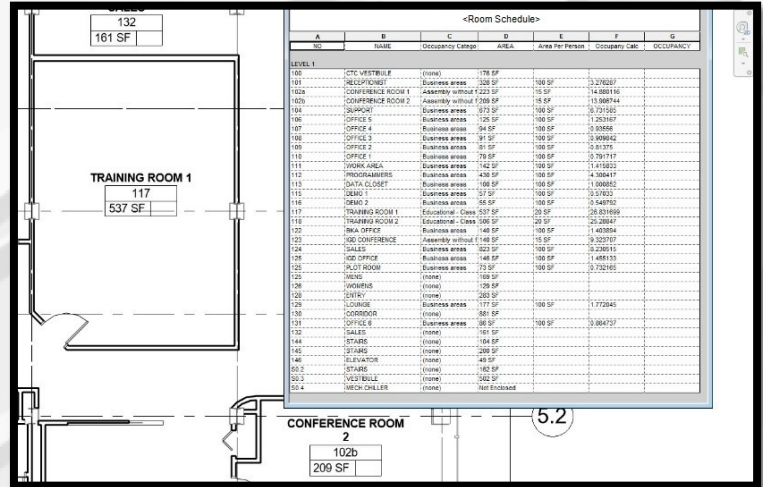DESIGN SOLUTIONS

BIM
PROJECT
SUITE

Issue

When working on medium to large buildings, how are you managing your program requirements? How are you checking the intended design area? In what way do you capture the number of required elements in a specific space? How can you assist the designer with room layouts and making sure the required equipment is used in the correct space? What happens when the design or the requirements change? Is there a way to compare data and assist with these changes? This session will demonstrate a process that will answer these questions, using a couple of tools you may already have at your fingertips. Spreadsheet Link and Room Family Manager are powerful tools that can be powerful assets when establishing building programs.

Typical Workflow

In manual workflows, many Architectural firms will use an Excel spreadsheet containing all the special requirements needed for the building. Occasionally, some firms will have a process to export the data from Revit and linked directly into this spreadsheet. Most firms will export the room data from their Revit design models, and manually enter the data in their spreadsheets. What happens on the return side, how does this data get back into Revit, almost always the data is manually inserted into the Revit models. There are a handful of Dynamo workflows and paid Revit plugins that are meant for this process specifically, but they either take dedicated professionals to create and maintain, or they cost a lot of money to purchase. Unfortunately, these tools are not commonly used. Now what about the content required to be placed in each space. Often, a designer is reading from the spreadsheet, browsing through their Revit library, and manually placing the content into their projects. If the design changes, or the requirements change, it all becomes a manual process, updating both the spreadsheets in Excel, and updating the models in Revit.
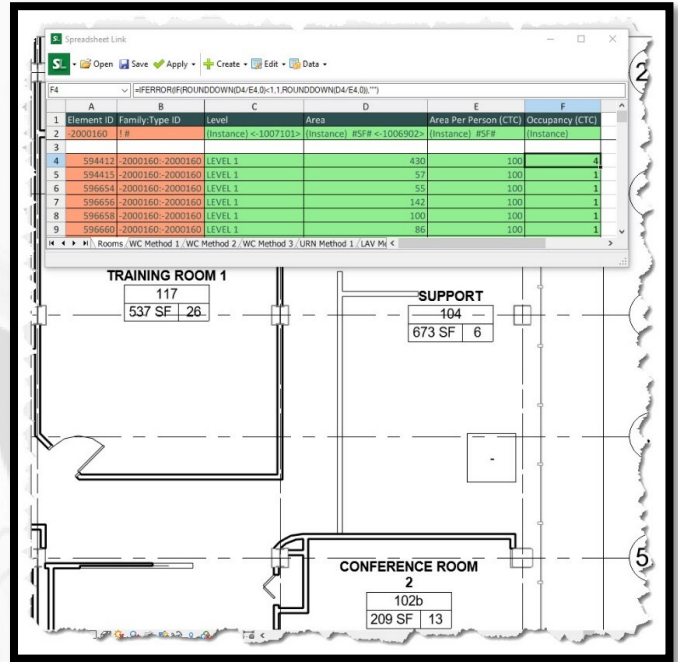
Solution

This entire workflow can be simplified by using a couple of tools that many firms already have in Spreadsheet Link and Room Family Manager, both from the CTC BIM Project Suite. A template can be created for the type of project and spaces that are being used to assist with populating special data obtained in the building program. This data can be pushed into the Revit models and a back and forth design process can begin. For the content to be placed within the rooms, Room Family Manager will help with defining the list of equipment required by each space, and help with populating each space with the defined list and again, another back and forth design process can begin.

End Result

When the workflow is developed and implemented, the entire special program can be added to the Revit project in a matter of minutes. Design Area versus actual modeled area can be compared and analyzed on demand. Content for each space can be placed per room specifications, whether the families are loaded or not. If layouts change, or if equipment needs to be replaced, the process ca be completed in minutes, instead of hours.
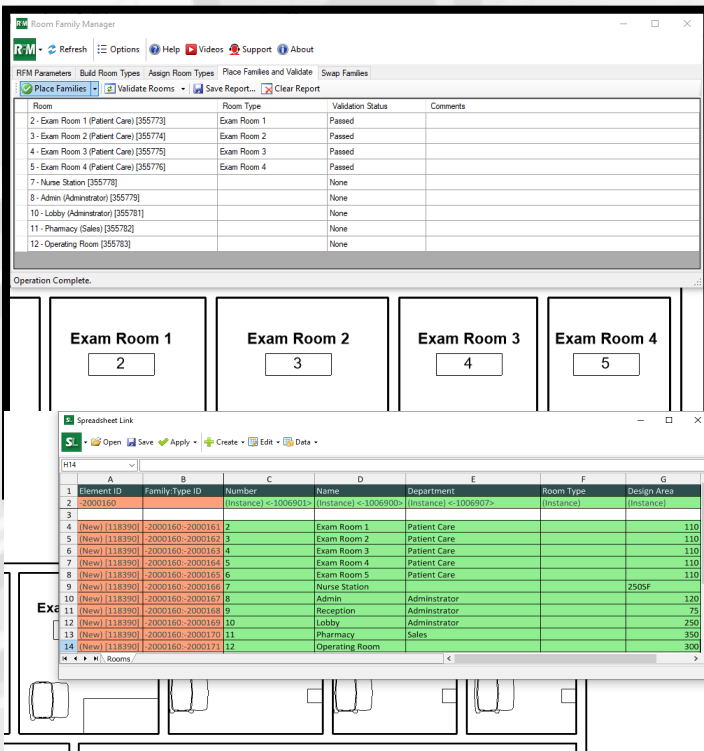
Any user can utilize this workflow to import the program requirements into their projects, update the models, import the content, and finish the design. This process speeds up a task that takes lots of time and removes lots of potential user error.

Savings/Benefits

Time saving can be applied to several different aspects of the project. Planners can continue to use Excel to generate the lists needed for the room import, pulling from defined lists of data instead of guessing or looking the data up themselves. They never have to open Revit if they do not want to.

The manual, error prone process of reading data from one source, and entering it into another source can be eliminated. This allows the designers and Revit users to focus more on the actual design and layout of the project more than focusing on the data they have been re-typing.

Conclusion

Spreadsheet Link and Room Family Manager from the CTC BIM Project Suite can help import the building program and assist with data comparison and with design changes. The process above is intended to be the starting point of a template that can be expanded upon to include additional information, making the process fit the needs of the project and the team. If taken a few steps further, most of the data and content needed can be managed with a couple of Excel files. Both Revit users and non-Revit users can take part in this process, and still have their designs imprinted on the project.

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