# Step by Step Guide for Room Report Generator

## Short Description

Generates Room Data Sheets into an Excel file. For each room in the project, a separate sheet will be generated in the Excel file, containing specific data of the rooms. The style of the Excel file is controlled by a template Excel file.

## Files to Download

### Python Script

https://graphisoftse-my.sharepoint.com/:u:/g/personal/tlorantfy_graphisoft_com/EYc9_GpK-W5Bgu23gpGkbfYB_pY4pjlGYxlZnrpIQbgYBA?e=AHJVRH

### Template Room Data Sheet Excel file

https://graphisoftse-my.sharepoint.com/:x:/g/personal/tlorantfy_graphisoft_com/EYS8AyygZ7dPvQPvJnUFp6IBjU2mMxEYNBzcQLz5m3TeYg?e=aLrF9d

### Example ARCHICAD Project

https://graphisoftse-my.sharepoint.com/:u:/g/personal/tlorantfy_graphisoft_com/EZt7YLgr-Z5Lr7eata8QH6UBe4wcNug3cPDq5GBQKXOe7g?e=uzpXML

## Step by Step Tryout Guide

1. Download the Python script.
2. Download the template Excel file and place it next to the script into the same folder.
3. Download the example project file and open it in ARCHICAD.
4. Run the Python script (from Python Palette or in any external application).
5. The output Excel file will be automatically opened by the script.

### Demo Video

https://ttprivatenew.s3.amazonaws.com/pulse/tlorantfy-graphisoft/attachments/13749890/room_report_demo.mp4

### Example Output

https://graphisoftse-my.sharepoint.com/:x:/g/personal/tlorantfy_graphisoft_com/ETrPkO6dshpPkuYgWHRiW3MBXoxsImtafVyjgjtujGYZkg?e=mr81OB

## Details

### Requirements

To execute the script successfully without any customization, the following requirements must be met. See the Customization section to change or eliminate these requirements.

- Template Room Data Sheet Excel file must be named "RDS template.xlsx" and placed in the same folder as the script.
- The following properties must exist in the project:
  - Group name: WINDOW RATE (Expression)
    Property name: Window rate calculated
  - Group name: ZONES
    Property name: Temperature Requirement

      ○  Group name: ZONES
           Property name: Illuminance Requirement
- A classification system named ARCHICAD Classification must exist.
- An application must be associated to the .xlsx (Excel) file, to be able to open the output Excel file.
- ARCHICAD 24.3003 or above
- ARCHICAD-Python Connection (Archicad package) version 24.3003 or above

## Customization

Feel free to open the script in any text editor and customize it. Each example script has a well-separated section, named "CONFIGURATION". Change the values in that section for customization.

```
############################## CONFIGURATION ##############################
outputFolder = scriptFolder
outputFileName = "Room Report.xlsx"
templateFolder = scriptFolder
templateFileName = "RDS template.xlsx"
cellAddressPropertyUserIdTable = {
    "C2": act.BuiltInPropertyUserId("Zone_ZoneName"),
    "G2": act.BuiltInPropertyUserId("Zone_ZoneNumber"),
    "G3": act.BuiltInPropertyUserId("Zone_ZoneCategoryCode"),
    "G6": act.BuiltInPropertyUserId("Zone_NetArea"),
    "G7": act.BuiltInPropertyUserId("General_NetVolume"),
    "G8": act.BuiltInPropertyUserId("General_OpeningNumber"),
    "G9": act.BuiltInPropertyUserId("Positioning_OpeningSubfloorThickness"),
    "G4": act.UserDefinedPropertyUserId(["WINDOW RATE (Expression)", "Window rate calculated"
]),
    "G15": act.UserDefinedPropertyUserId(["ZONES", "Temperature Requirement"]),
    "G16": act.UserDefinedPropertyUserId(["ZONES", "Illuminance Requirement"])
}
classificationSystemName = "ARCHICAD Classification"
insertClassificationTo = "C4"
insertRelatedZonesTo = ["C" + str(row) for row in range(6, 16)]
insertEquipmentNamesTo = ["B" + str(row) for row in range(20, 57)]
insertEquipmentQuantitiesTo = ["D" + str(row) for row in range(20, 57)]
insertOpeningNamesTo = ["F" + str(row) for row in range(20, 57)]
insertOpeningElementIDsTo = ["G" + str(row) for row in range(20, 57)]
#########################################################################
```

The template Excel file and the values in the configuration section of the script should be modified in synch with each other. For example, if any cell address in the configuration values are modified, then the template Excel file should be modified too.

This table explains the meaning of each variable and values in the configuration section to help customization.

| Name of the variable | Description | Default value |
| --- | --- | --- |
| outputFolder | The folder which will contain the output Excel file. | The folder of the script file. |
| outputFileName | The name of the output Excel file. | Room Report.xlsx |
| templateFolder | The folder which contains the template Excel file. | The folder of the script file. |

| | | |
|---|---|---|
| `templateFileName` | The name of the template Excel file. | RDS template.xlsx |
| `cellAddressPropertyUserIdTable` | A dictionary which contains pairs of cell and property identifiers. The values of the properties will be written into the given cells. Delete or add pairs from the dictionary to change the output. Make sure the template file expects the values in the given cells. | |
| `classificationSystemName` | The name of an existing classification system. The classifications of the rooms will be written into the output based on this system. | ARCHICAD Classification |
| `insertClassificationTo` | The address of the cell to insert the classification of the room. | C4 |
| `insertRelatedZonesTo` | The column and row identifiers to insert the adjacency of the room. | C6 to C15 |
| `insertEquipmentNamesTo` | The column and row identifiers to insert the names of equipment library parts. | B20 to B56 |
| `insertEquipmentQuantitiesTo` | The column and row identifiers to insert the quantities of the equipment. | D20 to D56 |
| `insertOpeningNamesTo` | The column and row identifiers to insert the names of openings' library parts. | F20 to F56 |
| `insertOpeningElementIDsTo` | The column and row identifiers to insert the element ID of the openings. | F20 to F56 |

## Possible Errors

If the script fails to execute and returns error, please make sure the script'srequirements of script have been met.

### AttributeError: 'Utilities' object has no attribute …

The version of the currently running ARCHICAD does not meet the requirements, or the version of the installed ARCHICAD-Python Connection is below the required version.

To update the ARCHICAD-Python Connection, open the Python Options from Python Palette and click the Update Connection button.

### TypeError: propertyId cannot be initialized …

One of the listed properties is not defined in the user's project file. The built-in properties always exist because those are built-in in ARCHICAD, but the user defined properties belong to the project file may have been modified by the user. Double check to see whether the names of the user defined properties and their groups match the values in the script configuration.

### StopIteration, return next(system.classificationSystemId for system in …

The required classification system is not defined in the user's project file. It is possible that the user has modified the project's classification systems. Double check to see if the name of the classification system defined in the project matches that in the script configuration.

## PermissionError: [Errno 13] Permission denied …

This error message indicates that the script does not have permission to save the output file. The most common reason is that the output file is currently opened in Excel, for example because you have run the script twice in a row. Close Excel before running the script to eliminate this issue.