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1 Imports System.Collections.Generic
2
3 Imports Grasshopper.Kernel
4 Imports Rhino.Geometry
5 Imports Interop.gsa_8_7
6 Imports UsageDataCollection
7
8
9 Public Class GetNodeCoord
10 Inherits GH_Component
11     ''' <summary>
12     ''' Initializes a new instance of the GetNodeCoord class.
13     ''' </summary>
14 Public Sub New()
15     MyBase.New("Get Node Coordinates", "NodeCoord", _
16         "Import Node Coordinates from GSA File", _
17         "GsaComTools", "Nodes")
18 End Sub
19
20     ''' <summary>
21     ''' Registers all the input parameters for this component.
22     ''' </summary>
23 Protected Overrides Sub RegisterInputParams(pManager As           ↗
    GH_Component.GH_InputParamManager)
24     pManager.AddGenericParameter("Gsa", "Gsa", "Gsa COM Object",   ↗
    GH_ParamAccess.item)
25     pManager.AddIntegerParameter("Nodes", "Nodes", "Node Numbers", ↗
    GH_ParamAccess.list)
26 End Sub
27
28     ''' <summary>
29     ''' Registers all the output parameters for this component.
30     ''' </summary>
31 Protected Overrides Sub RegisterOutputParams(pManager As         ↗
    GH_Component.GH_OutputParamManager)
32     pManager.AddGenericParameter("Gsa", "Gsa", "Gsa COM Object",   ↗
    GH_ParamAccess.item)
33     pManager.AddNumberParameter("X", "X", "X Coordinates",         ↗
    GH_ParamAccess.list)
34     pManager.AddNumberParameter("Y", "Y", "Y Coordinates",         ↗
    GH_ParamAccess.list)
35     pManager.AddNumberParameter("Z", "Z", "Z Coordinates",         ↗
    GH_ParamAccess.list)
36 End Sub
37
38     ''' <summary>
39     ''' This is the method that actually does the work.
40     ''' </summary>
41     ''' <param name="DA">The DA object is used to retrieve from inputs and ↗
    store in outputs.</param>
42 Protected Overrides Sub SolveInstance(DA As IGH_DataAccess)
43     'Declare Variables
44     Dim FileName As String = ""
45     Dim NodeRefs As New List(Of Integer)
46     Dim Nodes() As GsaNode
47     Dim NodeXCoords As New List(Of Double)

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48     Dim NodeYCoords As New List(Of Double)
49     Dim NodeZCoords As New List(Of Double)
50     Dim s As Short
51     Dim myDataCollector As New DataCollector
52     Dim myObjectWrapper As Types.GH_ObjectWrapper
53
54     'Import GSA File Name
55     If (Not DA.GetData(0, myObjectWrapper)) Then Return
56     If (Not DA.GetDataList(1, NodeRefs)) Then Return
57
58     Dim GsaObj As ComAuto = TryCast(myObjectWrapper.Value, ComAuto)
59
60     'Get Data
61     s = GsaObj.Nodes(NodeRefs.ToArray, Nodes)
62     For Each item In Nodes
63         NodeXCoords.Add(item.Coor(0))
64         NodeYCoords.Add(item.Coor(1))
65         NodeZCoords.Add(item.Coor(2))
66     Next
67
68     ' Assign the data to the output parameter.
69     DA.SetData(0, GsaObj)
70     DA.SetDataList(1, NodeXCoords)
71     DA.SetDataList(2, NodeYCoords)
72     DA.SetDataList(3, NodeZCoords)
73
74     'Send Usage Data
75     myDataCollector.UsageStatistics("GetNodeCoord")
76
77 End Sub
78
79 ''' <summary>
80 ''' Provides an Icon for every component that will be visible in the User Interface.
81 ''' Icons need to be 24x24 pixels.
82 ''' </summary>
83 Protected Overrides ReadOnly Property Icon() As System.Drawing.Bitmap
84     Get
85         'You can add image files to your project resources and access them like this:
86         ' return Resources.IconForThisComponent;
87         Return My.Resources.Node_Coords
88     End Get
89 End Property
90
91 ''' <summary>
92 ''' Gets the unique ID for this component. Do not change this ID after release.
93 ''' </summary>
94 Public Overrides ReadOnly Property ComponentGuid() As Guid
95     Get
96         Return New Guid("{5a890e3c-8398-4441-9b7a-49976a2c0161}")
97     End Get
98 End Property
99 End Class

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