Bentley Community (UKI) GC Workshop

26th January 2012
at Bentley HQ London

Agenda

Bentley Community (UKI), Thursday 26th January

0830-0925	Registration with tea and coffee, technical help	
0925-0930	Welcome and Introduction with Robert Klaschka	
0930-0945	Presentation 1 Lars Hesselgren PLP Architecture	
0945-1100	Training Session 1 Eike Schling PLP Architecture	Optional breakout
1100-1130	Presentation 2 with Refreshments Ralf Lindemann Ian Simpson Architects	
1130-1300	Training Session 2 Eike Schling PLP Architecture	Optional breakout
1300-1330	Lunch with videolink to the GC development team for the feedback session chaired by Robert Klaschka	
1330-1400	Presentation 3 - lunch continues Sam Wilkinson PLP Architecture	
1400-1530	Workshop Stream 1 Advanced Geometry Session 1	Workshop Stream 2 Scripting Session 1
1530-1600	Presentation 4 with Refreshments Eike Schling PLP Architecture	
1600-1730	Workshop Stream 1 Advanced Geometry Session 2	Workshop Stream 2 Scripting Session 2
1730-1745	Wrap up with Lars Hesselgren	
1745 onwards	Retire to local pub	

Bentley Community (UKI) GC Workshop

26th January 2012
at Bentley HQ London

Speakers, Presentations and Tutorials

Lars Hesselgren, PLP Architecture

Presentation 1 - Start using 'New' GC!

GC has now acquired a Grasshopper like interface, the Graph Manager. I will spend 15 minutes getting YOU to use the new interface before handing over to more advanced use. Prerequisite is of course that you have installed the latest GC

Eike Schling, PLP Architecture

Tutorial

We will be working with the latest GC - Node diagram. Starting with a simple two dimensional point array, we will investigate the power of generating free forms, by simple dependencies, writing little bits of code straight into our node diagram. We will then look at BSplineSurfaces, and how to build up a facade on top of them. This is a common task in parametric architecture and GC provides us with limitless possibilities to segment and populate a surface, and read and write values from our 3D model into Excel.

As a next step we will look at populating the surface with separately built components. These can be controlled separately, by variables, control graphs, or control surfaces, giving us plenty of dependencies to play with.

We will also cover basic project skills, like promoting existing geometry into GC, placing new Coordinate systems, using variables and planes to generate quick area updates, and displaying them on screen or writing them straight back into our spreadsheet.

Presentation 4

Eike will talk about the variety of uses of GC in our practice at PLP Architecture. This will look at form finding, parameter driven design and solving complex geometries, but also using GC as BIM software, building up detailed 3D models for planning phases. Finally he will look at the research PLP has been doing and how this could inform Architecture in the future.

Ralf Lindemann, Ian Simpson Architects

Presentation 2 - Concept Design using GC

GenerativeComponents is extensively used in our office in early stages of the design process. Ralf will show projects where GC was applied for form finding and façade studies during competition stage and for the development of concept ideas.

He will also present a programmed feature in Visual Studio Express that is used in GC to read pixel values of images in order to control geometry in GC.

Sam Wilkinson, PLP Architecture

Tutorial - Scripting

We will go through three separate exercises together, starting with a basic introduction to the variety of different methods one can create geometry and moving onto more complex functions. The first exercise will explore different methods for creating an array of points and will demonstrate some of the basic syntax and functionality of GC script; Secondly we will look at how to start manipulating these arrays; And finally the aim is to create a tower structure from the ground up using what we have learned so far. All of the tutorials will take a hands-on approach meaning you can follow along, so little or no previous experience is required.

Presentation 3

Sam's presentation will focus on the notion of multi-objective generative optimisation, i.e. using parametric search methods to rapidly test large numbers of alternative solutions to improve environmental performance.