3D Visualization of Plants

Concept for
Digital Landscape Architecture Workshop, June 2013 during DLA Conference 2013

Invited contribution by
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Objectives of Workshop: The workshop on 3D Plants is focusing on concepts, workflows, tips & tricks and, last but not least, on hands-on demonstrations by the creators of Laubwerk Plants Kits. Jan Walter will demo how he combines procedural plant modeling techniques with handcrafted details. Jan Walter Schliep and Philip Paar will present some of their next generation of 3D plant modeling and editing tools. Furthermore, we want to discuss with the participants about limits and requirements of representing vegetation in 3D visualizations. Are there any specific needs or "mental state" of landscape architects regarding 3D plants, which would demand specific approaches and "looks", e.g. other than in CG architectural visualization?

Target group of workshop: Landscape Architects, students, researchers and practitioners interested in 3D modeling and visualization of gardens, landscapes, and architecture.

Background of workshop: Literally everybody dealing with the computer graphical representation of outdoor scenes – pen and ink style or photo-realistic – visualization or computer games, has to deal with the fact that Mother Nature, especially the flora is very complex. And while users are facing this for decades now, dealing with virtual foliage in 3D applications is still complicated, time-consuming, often painfully slow and usually the final plants still don't look computer generated. Especially in digital landscape architecture practice, photomontage still seems to be the first choice when it comes to the representation of vegetation. Professional CG artists have been forced to chose between static plants that lack versatility, or overly-complicated modeling tools with hundreds of parameters that drastically slow down the creative process.

We present a new approach for landscape architects and CG artists looking for a fluent way to insert authentic, highly-detailed 3D plants into their 3D scenes. With drag-and-drop simplicity, and easy-to-use tools that modify the shape, age, season and level of detail.

Figures: Example of 3D plants in CG landscape architecture visualization.

Variations of different tree species, shapes, and seasons. Landscape design of the future campus of the Technical University of Chemnitz and 3D modeling by landscape architect Thomas Jarosch (haefner-jimenez.de). Project taken from the urban design ideas and realization competition for the conversion and extension of the heritage building "Alte Aktienspinnerei" into the Central Library (rendering by Jan Walter Schliep using VRAYforC4D, April 2013)

Kanzan cherry (*Prunus serrulata 'Kanzan'*) in spring

Globe robinia (*Robinia pseudoacacia 'Umbraculifera'*) in summer

Globe robinia (*Robinia pseudoacacia 'Umbraculifera'*) in fall

Red maple (*Acer rubrum*) in fall