



## RTIL-system: a Real-Time Interactive L-system for 3D interactions with virtual plants

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Résumé en anglais	<p>The L-system is a rewriting process based on formal grammar and is used to generate 3D, dynamic structures such as virtual plants and fractal graphics. In previous works, we highlighted that existing L-system software applications and programs are limited, either in terms of human interaction or in terms of modelling. In particular, few of them allow the user to interact with virtual plants during their growth. Our own L-system engine was developed and called the real-time interactive L-system (RTIL-system). The RTIL-system covers most important L-system extensions such as parametric and context-sensitive features. Furthermore, real-time interactions with the user and the environment with respect to L-system formalism are available. This paper presents an RTIL-system focusing on human interaction, the Partial Interactive Derivation (PID) concept and further progress by the extension of PID to context-sensitive rules. To illustrate the potential of the RTIL-system, the effect of various interactive tasks such as sub-axis additions, pruning and bending on the subsequent dynamic development of virtual plants is described.</p>
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