

Visual Language Generalization for Procedural Modeling of Buildings

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Procedural modeling has become the accepted standard for the creation of detailed large scenes, in particular urban landscapes. With the introduction of visual languages there has been a huge leap forward in terms of usability, but there is still need of more sophisticated tools to simplify the development process. In this paper we present extensions to the visual modeling of procedural buildings, which adapt concepts from general purpose programming languages, with the objective of providing higher descriptive power. In particular, we present the concepts of visual modules, parameter linking and the possibility to seamlessly

add abstract parameter templates to the designer visual toolbox. We base our demonstrations on a new visual language created for volume-based models like historic architectonic structures (aqueducts, churches, cathedrals, etc.), which cannot be modeled as 2D facades because of the intrinsic volumetric structure of these construction (e.g. vaults or arches).