A procedural modelling approach for automatic
generation of LoD building models

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In this paper we propose a procedural-based modeling system for
building generation that can
be automatically structured into different levels of detail (LoD).
Starting from a ruleset-based
model, the user can decide the level of specification to represent
the model. This specification
is described through a semantic combination using tags
associated with the rules. As a result,
we can obtain multiple representations of the same building
model, each one having the
appropriate accuracy for the required analysis task, in a flexible and automatic way. By giving
meaning to the architectural element structures we allow the possibility to export the model to
a standard format, as for example City Geography Markup Language (CityGML),
appropriately designed to unify urban models at different levels of detail.

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