

## **Abstract**

Considering the drudgery related to manual creation of virtual worlds, the opportunity of producing them automatically is too alluring to be dismissed.

This bachelor thesis introduces a solution that automates the generation of building's 3D model. The methodological foundation is based on declarative modeling approach and inspired by procedural modeling techniques. Presented work defines the set of rules and parameters. By these means, a faster and more intuitive way to design buildings' models, while preserving the flexibility and control of the user over the construction process, is proposed.

The solution is implemented as an add-on for Blender entitled „Buildings generator“. The Python scripting, which the add-on is based on, uses the API of open-source software Blender and is available under GNU GPL licence.

**Keywords:** Procedural modeling, Blender, 3D buildings, modeling automation, CityEngine