Chair of Computational Modeling and Simulation
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Software Lab:
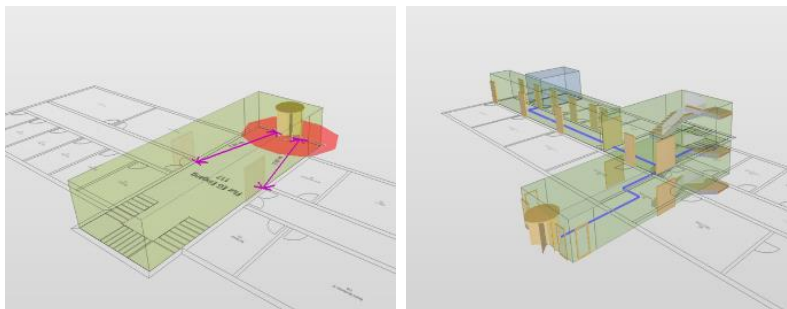
Modeling:
Mathematics:
Programming:
Science:

Adaptive Model Compliance Checking

Description

Building information models are widely used in the construction industry and can be automatically checked to ensure their compliance to project requirements or engineering standards. Nowadays, most building design efforts are made on geometrical and spatial improvements in the early design stages. However, the conventional compliance checking process for buildings is typically built for a group of fundamental building rules and might identify too many "unnecessary" issues, thus leading to massive reporting of non-real issues.

This project aims at developing geometrical and spatial constraints oriented rulesets with the SMC API, which will later provide effective automatic checking for early building designs. The developed rulesets will be verified with specific parametric building models. Additionally, post-processing methods will be developed based on the generated results of SMC.

Task

- Get to know the Rules API (Java) of the Solibri Model checker (SMC);
- Develop geometrical and spatial constraints oriented rulesets with the SMC API;
- Verify the functionality and effectiveness of the developed rulesets on parametrized building model;
- Develop post-processing methods focused on localizing checking results back to related components in the BIM model.

Supervisor

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References

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