

## Software Lab:

Modeling: ★★☆☆☆  
Mathematics: ★☆☆☆☆  
Programming: ★★★★★

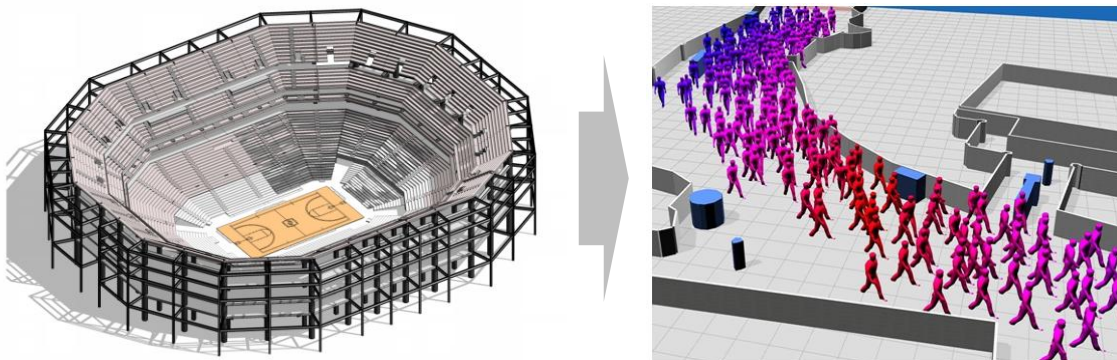
# The Revit Crowd Simulation Plug-in (also available as a Scrum project)

## Setting

Pedestrian simulations serve a wide variety of application areas. It is used for

- Calculation of evacuation times
- Identification of possible conflicts, i.e. bottlenecks in buildings and surroundings
- Determination of optimal evacuation routes etc.

To define a scenario in order to run a pedestrian simulation, Revit can be used, since it already copes with the geometry. In this Software Lab project, a plugin shall be developed, which is capable to read in GIS-data as a data source additionally to common BIM file formats. Surplus, there shall be different semantics applied to certain geometrical parts of the Revit model, such as sources, destinations etc. The enhanced model shall be exported into a given format to serve as input file for a pedestrian simulation tool.



## Task

The Software Lab will include the following tasks

- Getting familiar with Revit and the Revit API
- Definition of mappings between GIS and BIM formats
- Adding object properties to existing components (sources, destinations)
- Integration of these additional object properties to the Revit file format
- Implementation of an exporter to a given .xml format

## Supervisors

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