

Software Lab:

Revit-Plugin for a ruled-based splitting of elements

Setting

Nowadays for designing and planning buildings, you often use building information models. Usually such a model represents the final and not intermediate construction states. For cycle planning and the selection of the optimal formwork you need to know the possible intermediate construction states gradually during the construction progress.



Figure 1: Jeddah Tower

Task

To find and define such possible intermediate states you need to split elements in a building information model. For the splitting, you have to consider some rules for cycle planning like no joints inside openings and at corners of outside walls. Your task is to write a Revit-Plugin, which should be split elements automatically as possible to define joints between casting segments. Later an aggregation of casting segments represents an intermediate construction state.

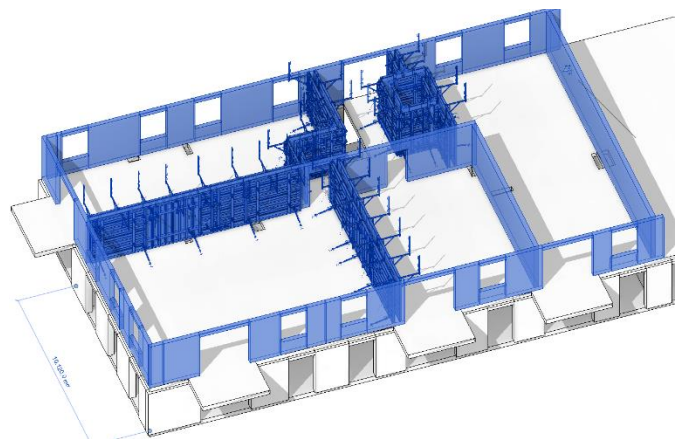


Figure 2: Cycle Planning (4 casting segments)

- Get familiar with the Software Revit from Autodesk and
- Programming Language: C#
- The Revit-Plugin should include:
 - Great a concept how you can implement a ruled-based splitting of elements
 - Encrypted communication between the server and the IOT-Device
 - An algorithm to split elements in semiautomatic way
 - Implement a graphical user interface (GUI) for your Revit-Plugin

Supervisors

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