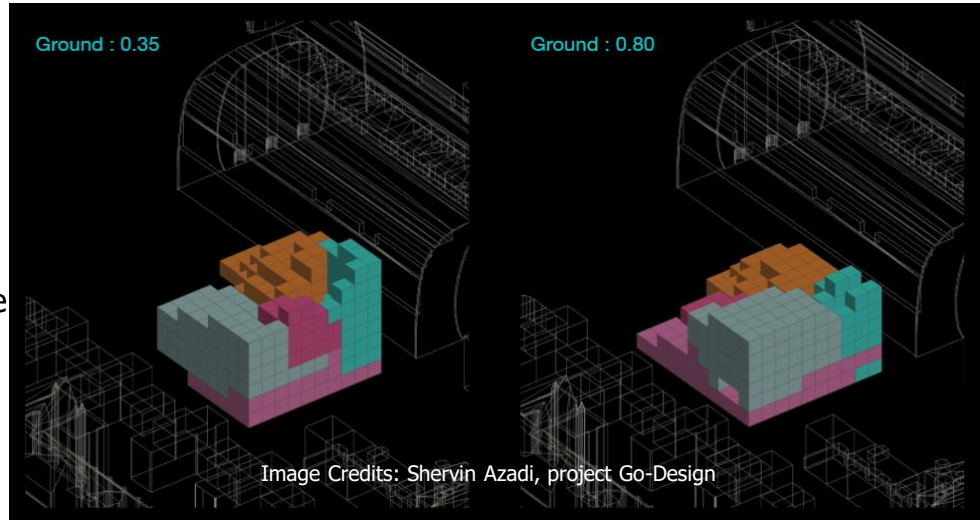
Generative Configuration Design

Feed-Forward 3D Configuring as to Spatial Qualities and Requirements



Background and aim:

Modeling the spatial design space discreetly will allow us to see the configuration problem of a building as a discrete decision making problem. This will provide for ex-ante assessment of various criteria that influence the functionality of a building in terms of accessibility/visibility-related factors. The aim of the research is to devise a systematic way of configuring buildings in 3D to optimally meet functional requirements pertaining to such factors etc.

Research question:

How to configure a building procedurally given a program of requirements, accessibility, and daylight requirements and complex site constraints?

Design objective:

To design and implement a computational 3D layout methodology.

Methods:

- Architectural Engineering
- Multi-Criteria Decision Analysis
- Computational Topology and Graph Theory
- Computer Programming (Python/C#)

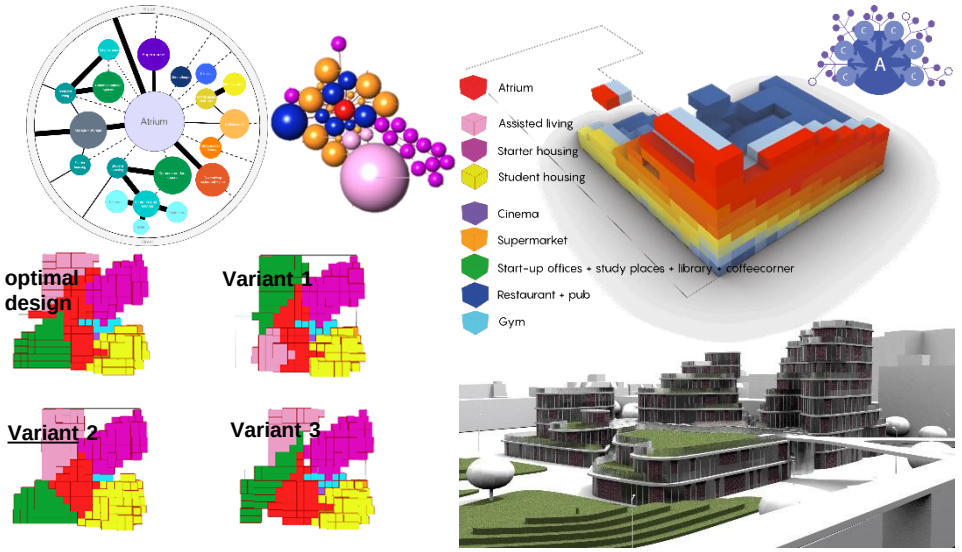


Image Credits (Spatial Computing, 2018-2019):
Fé van Lookeren Campagne, Max Ketelaar, Ruben Schonewille,

Building Technology Graduation

Theme: Computational Design/Generative Design

Info: Pirouz Nourian p.nourian@tudelft.nl

Mentor team: Pirouz Nourian/Shervin Azadi (Design Informatics), Ir.Annebergie Snijder/Prof. Thijs Asselbergs (Architectural Engineering) Start-up Advisor: **BouwLab**