caad DARCH
Prof. Dr. Ludger Hovestadt
Computer Aided Architectural Design

Exhibition: september 30 – october 14, 2005 | ETH-Hönggerberg Zurich, HIL ground floor, zone D30
Vernissage: september 30 at 6.30 pm

m.any

An experimental construction is on exhibition. It chronicles the research, experimentation, and development undertaken by the postgraduate students in Computer Aided Architectural Design (CAAD) 2004-05. Within a three months period, the participants designed, programmed, and fabricated an irregular spatial structure, showing the potential of the „digital chain"; the entirely digital process from design through to production.

The concept of the design is based on cellular automata. It creates a self organised growing mesh where the designer is able to directly interfere with the running design by changing parameters and positions of the structural nodes. A computer simulation model was programmed in Java, using 3D API to visualize the design state in three dimensions. The resulting mesh is flexible and manipulable, allowing it to adapt not only to the user defined parameters but also to contextual elements.

Intertwined with the design process, construction studies and fabrication systems were developed for production using the CNC machines located at ETH Hönggerberg. Using construction data directly derived from the 3D-model, m.any variations can be generated and easily outputted.

The final fabricated result should be regarded as a structure and proof of concept, showing the potential for using current information technologies in architectural design and construction.

Postgraduate Students:
Tobias Bonwetsch, Sebastian Gmelin, Bergit Hillner, Bart Mermans, Jan Przerwa, Arno Schlüter, Rafael Schmidt

Master of Advanced Studies in Architecture, Specialization in Computer Aided Architectural Design
Supervision: Prof. Dr. Ludger Hovestadt, Philipp Schaerer
Chair of CAAD, ETH Zurich, Switzerland | www.caad.arch.ethz.ch

ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich