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LoX: Collective AR-Assisted Assembly of Topological Interlocking Structures

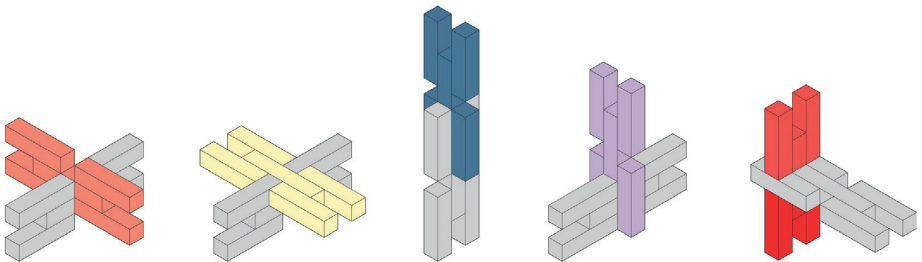


Collective AR-Assisted Building

What is LoX?

LoX, a cooperation between the two TUM professorships Digital Fabrication and Structural Design with the Zurich start-up incon.ai, invites people to take part in a collective construction process made possible by new Augmented Reality (AR) technology. In LoX, a digital building plan can be retrieved by users via a mobile AR app, which precisely positions building instructions in 3D space superimposed on the physical structure. By following these digital instructions, users can collaboratively build complex timber structures without being dependent on further plans or measurement devices.

The construction progress is synchronized and coordinated via the app using cloud-based tools, and allows several users to participate in the construction at the same time. Based on the principle of topologically interlocking structures, LoX offers a variety of form-fitting connections with just one modular component made of timber without the use of mechanical connectors. This principle allows the implementation of small functional objects as well as larger and more complex structures on an architectural scale, which can be reconfigured and reassembled at any time. The overall aim of LoX is to make building processes



„With LoX we enable collaborative building using Augmented Reality tools.“

more tangible and accessible to the public and to encourage community participation. In order to involve the public in the creation of belonging and responsibility in our city, a system like LoX will enable people in the future to build up their own, jointly created, multi-purpose structures.

