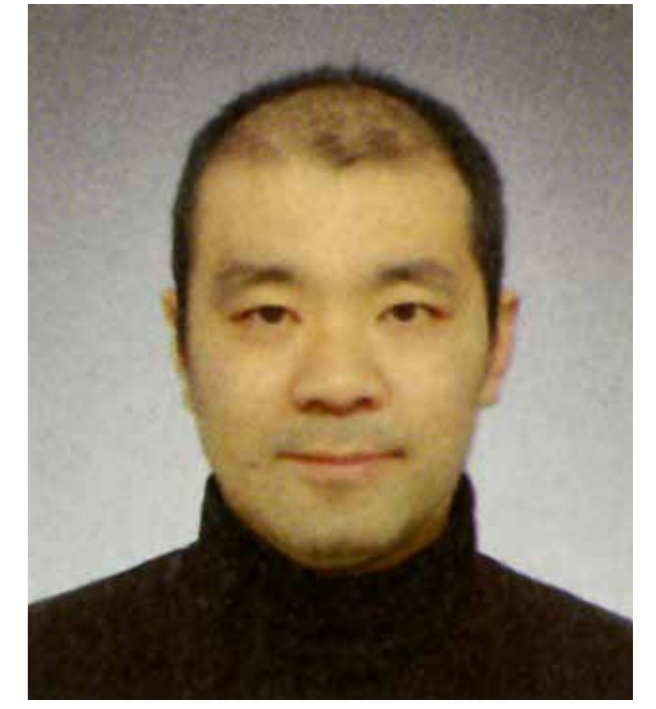


IMAI LAB.

A Self-Built Experimental House Using Digital Technology



Department of Human and Social Systems
Design-Led X Platform

Architectural Space System

Department of Architecture, Graduate School of Engineering

<http://www.imai-lab.iis.u-tokyo.ac.jp/>



Actual size prototype

PENTA - SOFT

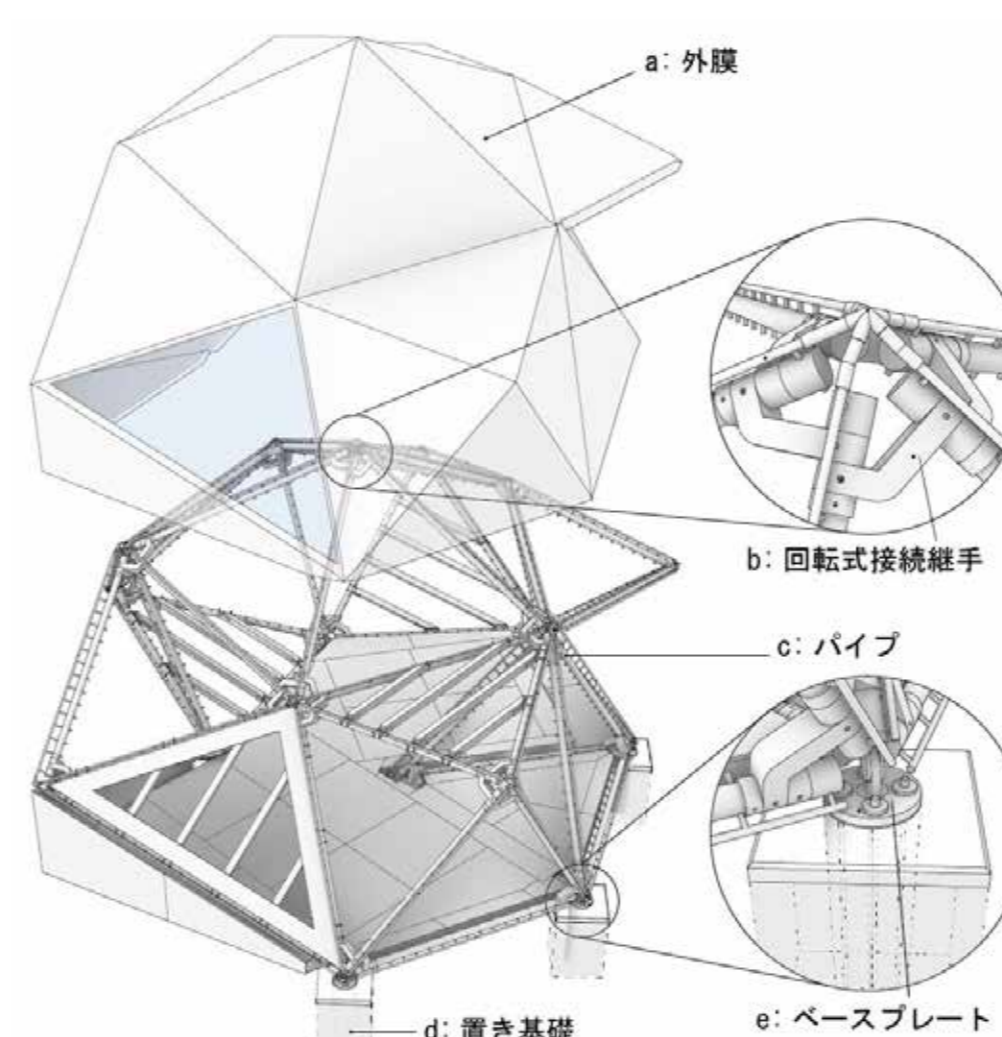
This project explores prototypes of future architecture that lie between houses and tents, combining digital technology and architectural design. Houses can be used for the long term, but have the challenge of being too expensive. Tents are cheap and easy to build, but are not durable and cannot be permanently inhabited. The ultimate aim of this project is to develop a lightweight, self-build, relatively inexpensive and durable temporary living system that offers a free and flexible lifestyle.

The geometrical construction system based on the Pentahedron allows the

user to decide and assemble the floor plan and the shape of the house to their own preference, and to change the form of the house by changing joints combination and setting grounding conditions. The framework is made of lightweight aluminum pipes and specially designed joints with flexible rotation mechanisms, so that anyone can disassemble, transport and assemble it freely. The aim is to improve the system through construction and usability checks, as well as structural and environmental monitoring after construction, with the aim of future social deploy.



lifting the ground-assembled Hexa, Penta and Tetra modules



PENTA-SOFT Configuration



One-room interior space with a variety of places to stay

