HOUSE X+Y is part of the LDM studio series on “Hybrid Typologies” which explores the fusion of physical and digital architecture and the hybridization of different typologies, such as world expos, offices, museums, churches, universities, parliaments, and cities. Our focus for Spring 2024 is on "Hybrid Houses".

The recent confinement during the Covid -19 crisis has starkly revealed the limits of contemporary housing typologies, highlighting an increased misalignment between their affordances and emerging lifestyles where living and working converge under one roof, and everyday social activities, such as shopping, learning, playing, meditating have moved from the city into the intimate confines of home.

This studio challenges students to reimagine a basic vernacular housing typology (X) and explore its possible transformation into a hybrid typology (X+Y) where increasingly (almost) everything takes place.

Methodologically, the studio will explore Generative AI as (inevitable) future operative, representational, and technical design tools.

Generative AIs in architecture (such as Midjourney, Dall-E and Stable Diffusion) have the potential to not only capture and reproduce the essence of images, depicting the mood and style, but also uncovering subtle details that would otherwise be overlooked by human eyes.

In this studio, Generative AI will be our "telescope“ through which we re-discover and re-process our built environment, while critically questioning the role of generative artificial intelligence in architecture.

Is creativity in architecture only exclusive to humans? Can machines automatically generate meaningful architecture? Can machines capture and generate something as fragile and elusive as genius loci?
Alison & Peter Smithson
The House of the Future, 1968
Using Generative AI, we are interested in the house not only as the shelter for domestic life, but also in the notion of “heimat”, the sense of belonging and identity a house can forge. Images are powerful vehicles for these ideas, and we will use AI-driven workflows to process images to capture, collect, and learn the Architectural DNA of a local identity, investigating how context-driven anomalies tweak the original form of a domestic type.

While images of house exteriors (street-views, facades, location of front-doors) convey the identity of a place and neighborhood, they also reflect the functions inside the house, such as domestic life-styles, societal status, internal organizational hierarchies. Here architecture provides the structural frameworks, and the starting point for the hybridization process, which will be at the core of the studio’s speculative design pre-occupations.

The studio will oscillate between collaborative research, individual projects, and hands-on design tasks. This blend of activities aims to deepen understanding of AI tools in architectural design and develop technical (and coding) skills to resist the growing corporate monopolization of generative AI in the field of architecture.

The studio will culminate in a personal interpretation of House X+Y on a specific site, as a final project: a privileged, virtually public and flexible, yet physically private and intimate space, amidst a changing world and confused ecology.
Alison & Peter Smithson
The House of the Future, 1968
Pre-requisites. The studio will introduce cutting-edge AI tools, such as Stable Diffusion, interfaces like Midjourney, Automatic1111 and ComfyUI, and models like SDXL. No prior programming or software knowledge is required, however, there should be curiosity and a strong desire to tackle these new tools in the context of a theoretical and experimental studio.
El Lissitzky
*Cabinet of Abstraction, 1927*
Valerio Olgiati
*A House for a Musician, 2007*
John Hejduk
Church House, Lancaster/Hanover Masque, 1980-1982
John Hejduk
Store House, Scare-Crow House, and Weather Station, Lancaster/Hanover Masque, 1980-1982
John Hejduk
House of the Suicide, House of the Mother of Suicide, Prague, 1991
Magdalena Osiniak
Boundaries of Niederdorf, 2017
Magdalena Osiniak
Boundaries of Niederdorf, 2017
Hariri & Hariri
Digital House (The Un-Private House, MOMA), 1999
Hariri & Hariri
Digital House (The Un-Private House, MOMA), 1999
DSLR Video Shooter
Youtube studio, 2019.
weConnect virtual classroom.
Tonny Valenzuela
Stanislas Chaillou, Harvard GSD
A New Frontier for AI in Architecture, 2019.
Tom Kelly, Paul Guerrero, Anthony Steed, Peter Wonka, and Niloy J. Mitra
FrankenGAN: guided detail synthesis for building mass models using style-synchronized GANs, 2018
Tom Kelly, Paul Guerrero, Anthony Steed, Peter Wonka, and Niloy J. Mitra
FrankenGAN: guided detail synthesis for building mass models using style-synchronized GANs, 2018
Gentle Waves Villa

A contemporary white resort somewhere in the Greek islands. Made with MidJourney, post-processed with multiple A.I.s and Photoshop.

For: @danny_hitzer

#greekislands #greek #island #villa #zahahadid #2hacode #timfu #aiarchitecture #ai #midjourney #midjourneyarchitecture #dalle2 #parametric #architecture #parametricarchitecture #futuristic #architecturephotography #interiordesign #architecaanddesign #archilovers #arquitectura #dezeen #designboom #aiart

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50w  Reply

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December 20, 2022
Carlos Banon
Midjourney Architecture, 2023
ComfyUI Interface using SDXL
MxD Lab, Atelier Huang, EPFL
MxD Lab, Atelier Huang, EPFL
MxD Lab, Atelier Huang, EPFL
MxD Lab, Atelier Huang, EPFL
Axonometric View, Zürichness
MxD Lab, Atelier Huang, EPFL
Axonometric View, Zürichness
Schedule
Spring 2024

Phase I: Generative AI
Feb 19 - Feb 20 Text Prompting
Feb 20 – Feb 26 Image Prompting
Feb 26 – Mar 25 ControlNets

Phase II: House X+Y
Mar 26 - Apr 15 Architecture Machines
(Mar 29 - Apr 07 Easter Break)
Apr 15 Midterm Review
Apr 15 –Apr 29 Matrix

Phase III: Final Exhibition
Apr 29 – May 13 Instantiation, Details
May 13 – May 25 Portfolio, 3D Prints
May 27 Final Review

Dates are subject to change.

Team
Media x Design Laboratory
Prof. Jeffrey Huang
Marcela Delgado, Alexandre Sadeghi, Ga-In Sim, Mikhael Johanes, Frederick Kim,
Christina Doumpioti, Christoph Holz, Gianna Ledermann

Partners
Kyoto Design Lab
Prof. Erwin Viray
Prof. Masahiro Kinoshita