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IDEA

Integrated Design in Emerging Architecture
Bachelor of Science International Program
Faculty of Architecture Chiang Mai University

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Integrated Design in Emerging Architecture

IDEA Program, Faculty of Architecture

Chiang Mai University

Chiang Mai 50200, Thailand

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ข้อมูลบรรณานุกรมของหอสมุดแห่งชาติ

Integrated Design in Emerging Architecture

Faculty of Architecture, Chiang Mai University, 2020.

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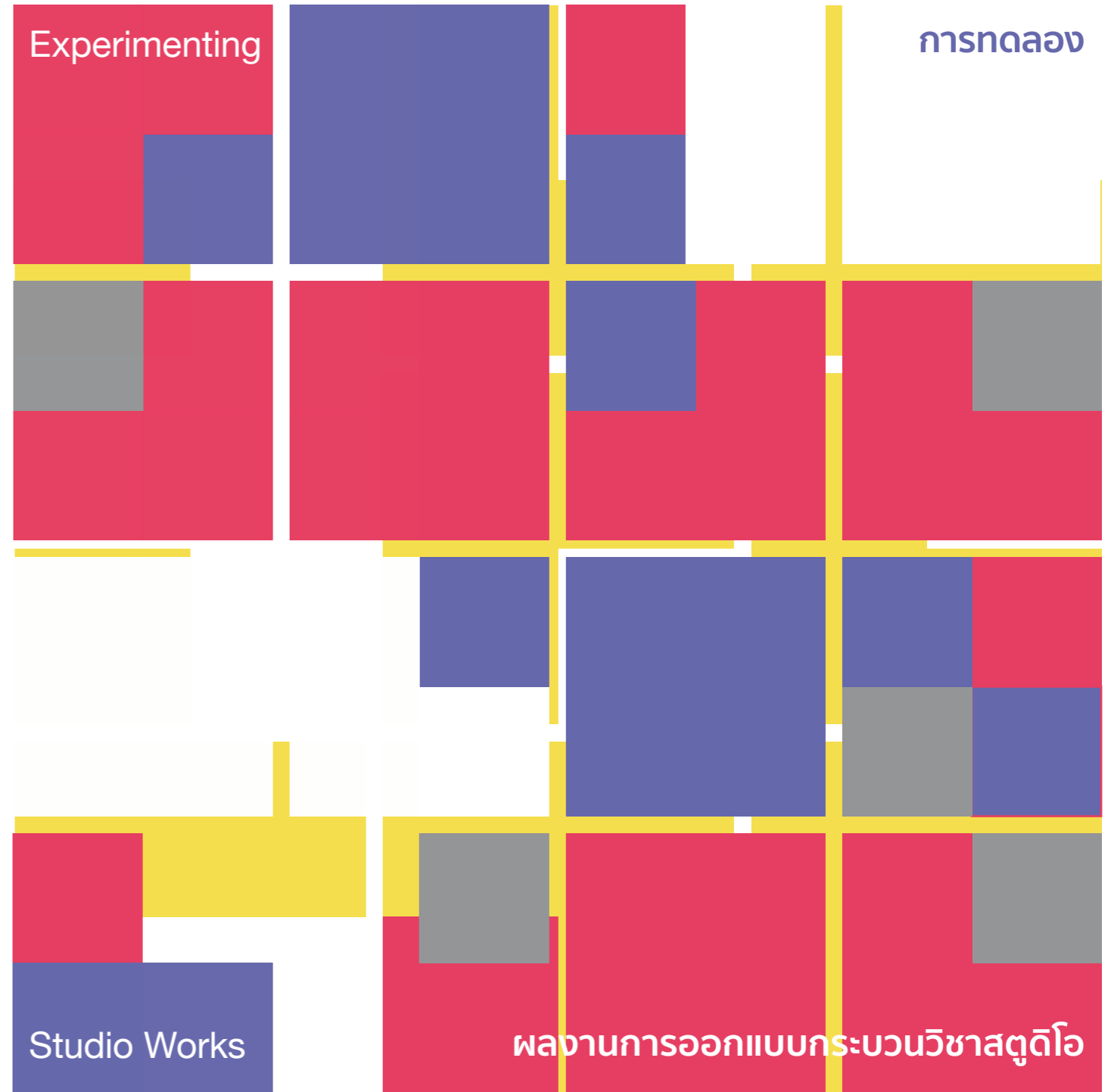
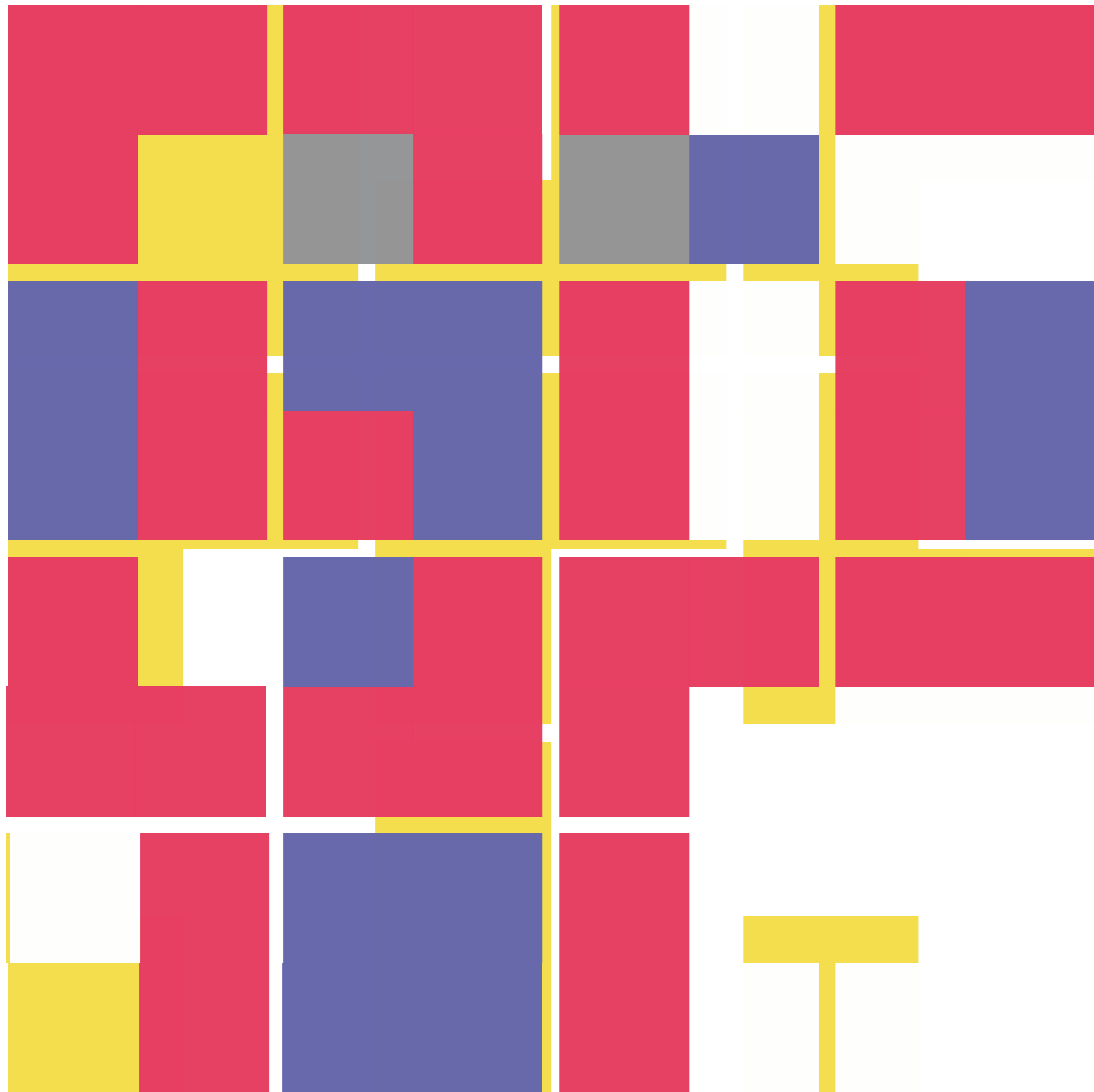
IDEA

Integrated Design in Emerging Architecture

Faculty of Architecture Chiang Mai University

vol. 02

2021 - 2022 / 2564 - 2565



Experimenting

การทดลอง

Studio Works

ผลงานการออกแบบกระบวนวิชาสตูดิโอ

Year 01

Fundamental Design in Architecture Studio 1

Expression Controller Body Machine

Instructors: Julian Huang and Raphaël Belhache
Students: Annita Lysuwan, Phumipat Pitakhirunpong, Qige Qi, Tanakorn Sukpaisal, Ambra Bellin, Poomisit Boonpo

In the first semester of Year 1, students are asked to explore the relationship between our bodies, and differing methods and modes of drawing. The initial question is, can drawing only be achieved by our hands? Is it possible to draw with other parts of our bodies, that require other sensory experiences? The pedagogical motivation behind the project is a deeply held belief that the act of drawing is a multi-sensorial experience that involves a complex interaction and engagement between our physical, psychological, and sensorial nodes — the to be developed 'Machine for Drawing' is a mechanism that can trigger, engage, and awaken these various sensorial compartments that rest in our bodies.

Consequently first project in Semester 1 is to create a mapping of one's body. The importance of any mapping is the inclusion of 'reference points', which allows one to refer to the drawing with real world points, coordinates and/or nodes. Often these points are either spatial and/or quantifiable, which can be utilised to develop drawings that express movement, rhythm, and flow. To carry out the project consistently throughout students' work, sequences of movies, choreography, and performance art are required viewing.



Water Dance Body Mapping

In the second phase of the project students, working collectively, attempt to draw and create a 'movement map' of bodies in space in relation to specific moments of time and context they deem interesting or significant. Through the study the movement and flow from different perspectives, angles, and by using differing methods of drawing, along with the aid of free-hand sketching, diagrams, and photo montages, the aim of the project is to create and develop a 'Drawing Machine'.

In the final phase of the project, students continue to develop the 'Drawing Machine', with the eventual goal for each student to 'manufacture' a prototype of their 'Drawing Machine' and to create a 'meta-drawing' from their device. The main requirement of the 'Drawing Machine' is the need for it to be attached to, or be able to engage/interact with a physical body in order for the user to perform the drawing function. In this final assignment, students also start the actual design process, working with physical materials; creating joinery for connecting materials together or to the body parts; as well as engaging with production methods and processes.





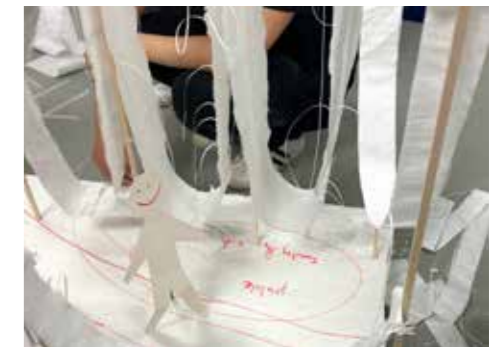
The Collective Beacon Bangkok Design Week 2022

Using ready-made materials, Year 1 architecture students of the IDEA Program, designed and built the energetic and colourful public furniture, the Collective Beacon.

The site, Rong Kuak shrine, located in Talad Noi, regularly sees its courtyard flooded depending on the tides of the Chao Phraya river. Often inhabitants are seen using sandbags to create temporary bridges and dykes in order to maintain the usability of the public spaces and movement of the people in the colourful Talad Noi market alleys.

The Collective Beacon, a series of shaded public furnitures, serves as a space to sit, relax, and observe movements on the Chao Phraya river. At night, its lighting acts as a signal addressed to Bangkok inhabitants of the existence of Talad Noi, its community, people, and its identity.

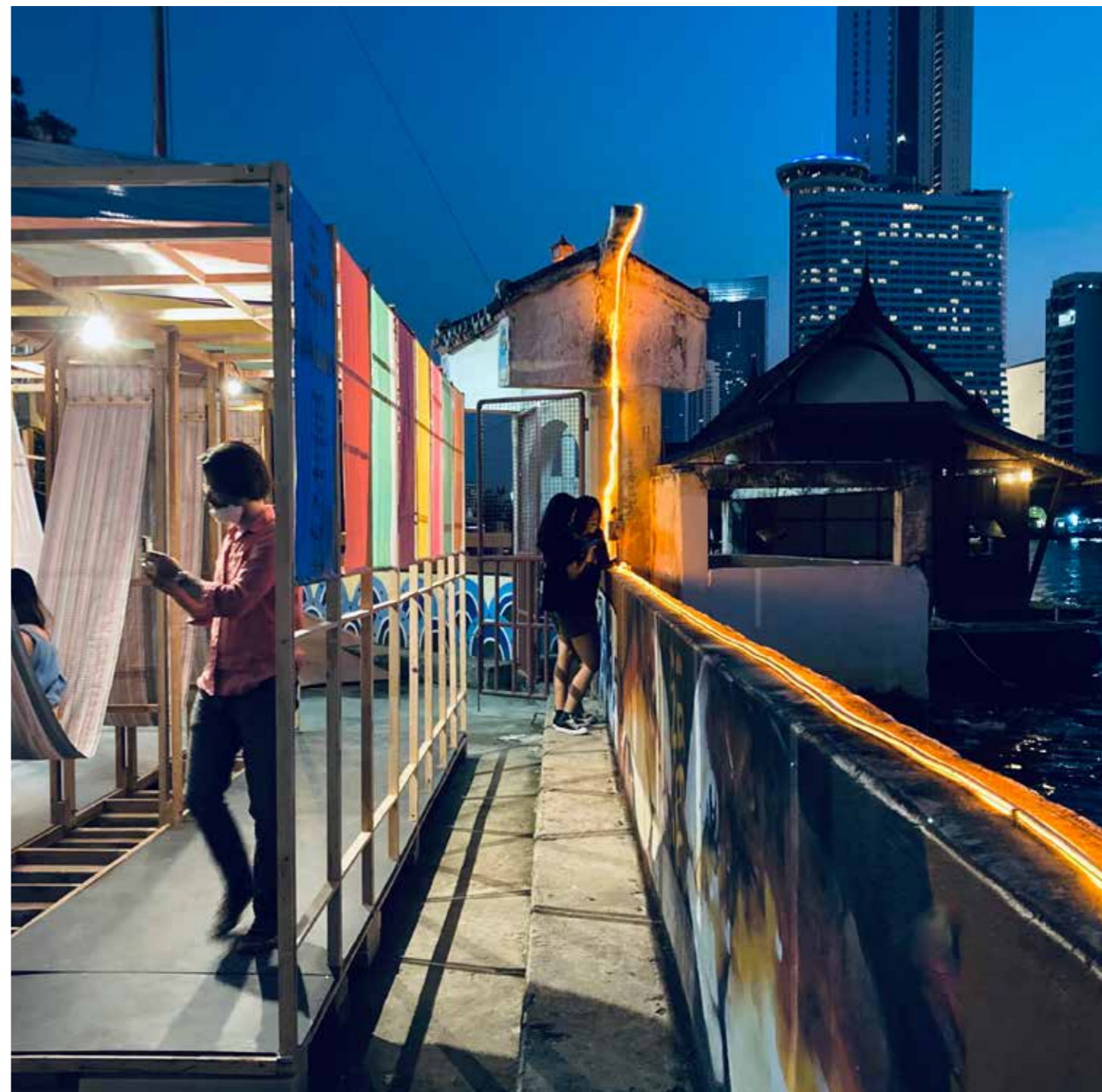
Through weeks of experimentation, discovering the versatility, resistance, and physical limitation of sandbags, the team of six students designed and built the Collective Beacon pavilion utilising their collective knowledge of woodcutting, drilling, assembling, sanding, sewing, as well as logistic planning to bring the pieces of the pavilion to its final destination, Bangkok.











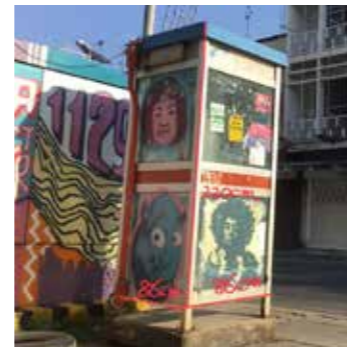
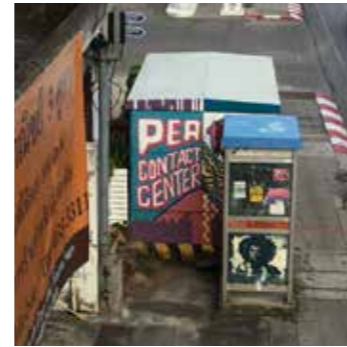
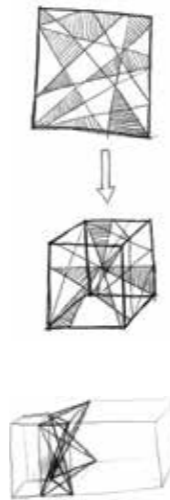
Plug-In Chang Moi

The final project of Year 1 Semester 2 is the creation of an alternative mapping project that not only aims to survey a set of physical spaces and then translate them into detailed architectural drawings, but also to create persona methodologies and a set of tools to record and calibrate the ephemeral – the emotional and personal matters that are attached to these spaces.

This initial mapping exercise involves the selection of an initial 'plug-in space'. Student's are required to explain how their chosen space can fit into the category of a 'plug-in' space, in particular, the relationship between themselves, the space, and the user, that they are then responsible to define.

The primary task is to take measurements of the selected spaces, in as much detail as possible, using established surveying techniques, and then afterwards translate them into detailed drawings. Critically, the focus is not only on the space itself, but also the in-between spaces, and their relationship to the wider context.

Lastly, students are tasked with shifting their focus to the inhabitants of the spaces including themselves. By doing so, it is hoped students gain insight into the intangible framework of the spaces – the ephemeral, the emotional, and the personal constructs of architecture. The traces of lives thus cannot be recorded using traditional set of tools, and require the design and development of a new sets of tools in order to record and map.



Year 02

Creative Design in Architecture Studio 1

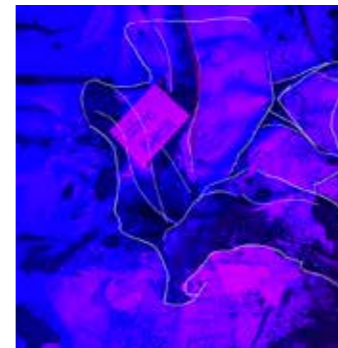
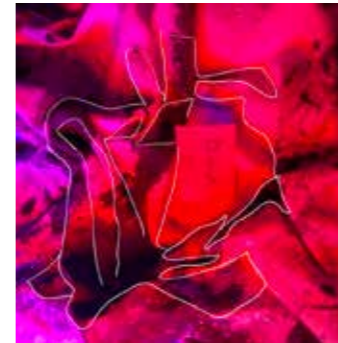
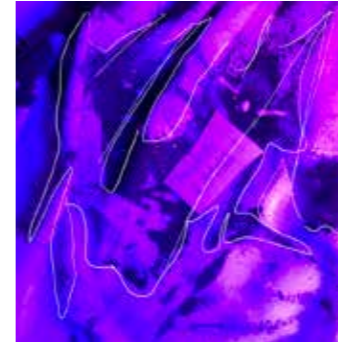
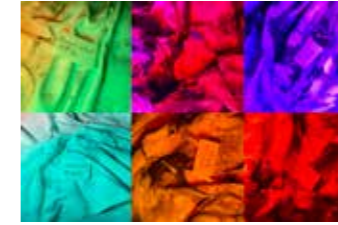
Another form of Language

Instructors: Burin Tharavichitkun and Joshua Roberts
Students: Prem Cheditha, Chen Junyi, Duan Yulin, Hu Xiaoxue, Kang Sunyang, Liang Bo Lun, Rao Ruiru, Pharima Sroyetch, Xiong Jlayi, Zhang Silin

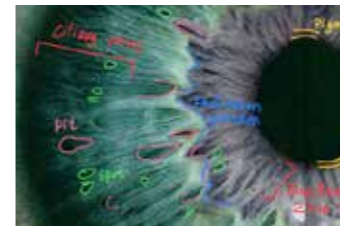
How space is understood through drawing and modeling as a unique form of language is the primary focus of IDEA Year 2 Semester 1. Rather than prioritising the design processes of actual architectural volume and form, the intangible feelings or hidden and unseen dimensions of space and its representation is the main interest of the studio.

Students are expected to explore profound feelings and emotions in specific areas and matters. Therefore, more rational ways of thinking are not as important as students' first-hand perception and feelings. Students are encouraged to use their instincts as a means and method to engage with deep feelings or the unconscious, through a series of workshops and projects that explore the translation of dreams or have uncontrollable and unpredictable outcomes.

The chosen themes for the year overall, "Atmosphere" and "We are (VR) in the Void" represent a long term investigation into phenomena that is difficult to see or ascertain only with one's eyes Yet one that can truly be felt, leading to an expanded understanding of the creation space physically, mentally, and virtually.



Panther

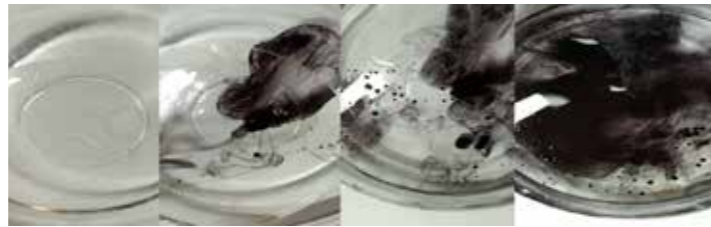


Translation of a Dream



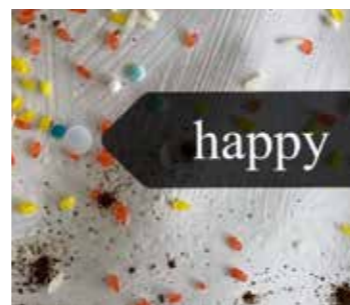


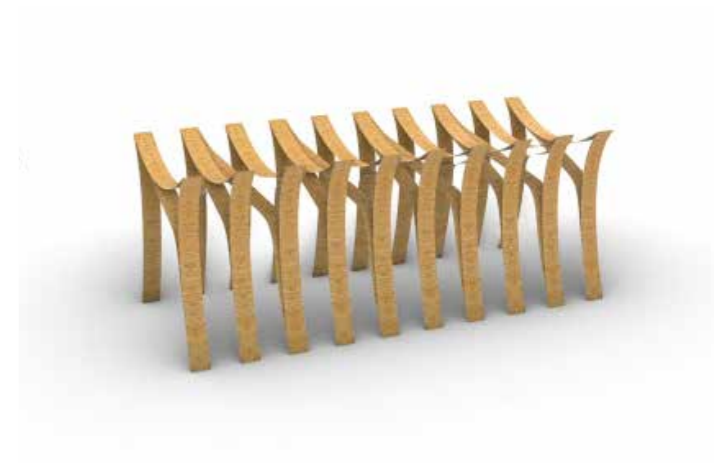
Ink(ed)



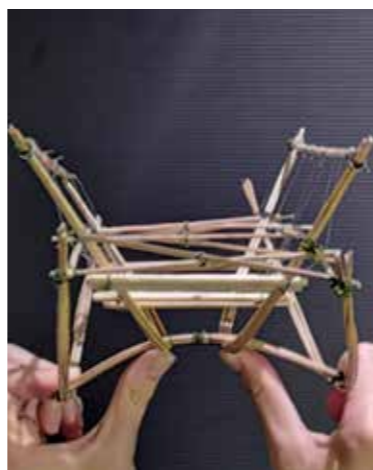
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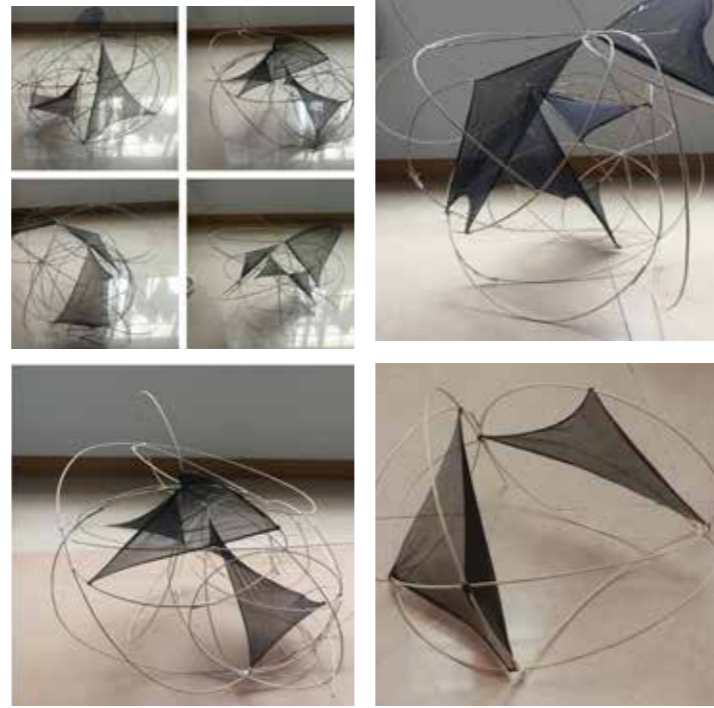
Broken





Fragile Bamboo





Play of Atmosphere

Architecture is surrounded by atmosphere. Sometimes it might be difficult to see, but atmosphere can be experienced and is vital to create differing emotions, moods and feelings in architectural spaces.

The final project first semester of IDEA Year 2 Semester 1 thus focuses on these intangible qualities of the surrounding environment. A specific type of atmosphere is selected and carefully observed by each student. Deep investigation and analysis are keys for the early stages. Students are allowed time to develop various tools both analog and digital to express their personal understandings. Their perception of atmosphere is then shaped through a number of design experiments from simple two-dimensional studies to increasingly more complex iterations. As result of this process, the meanings of spaces are expected to gradually emerge from the atmosphere itself.

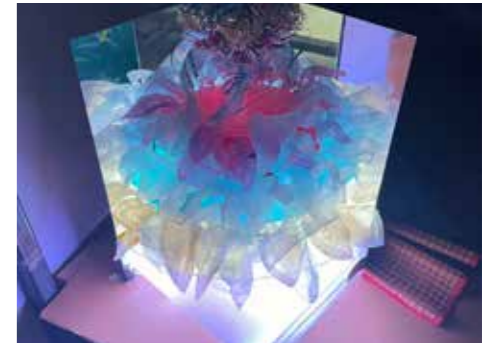
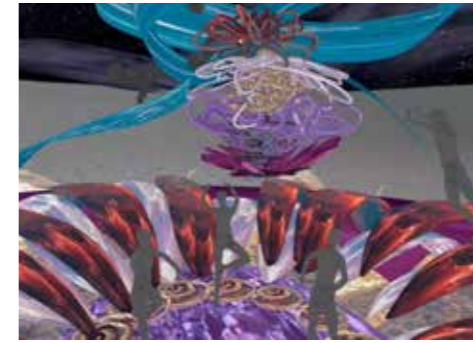
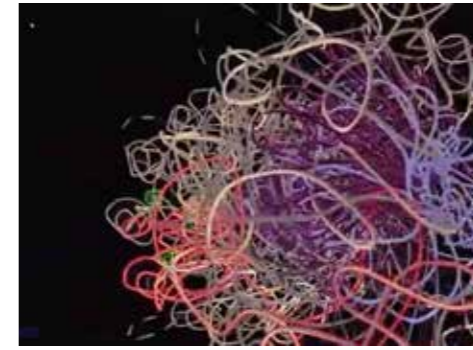
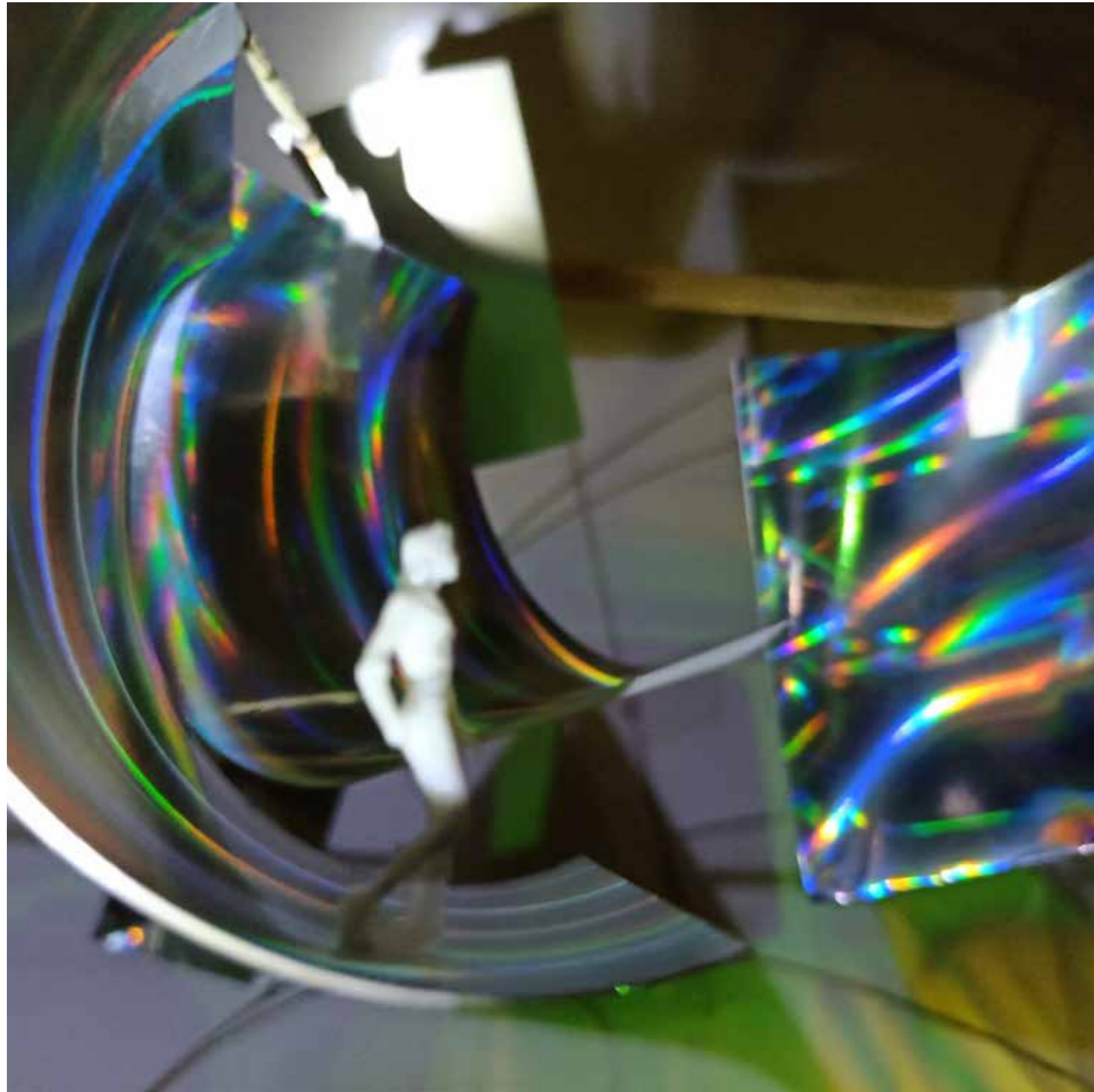


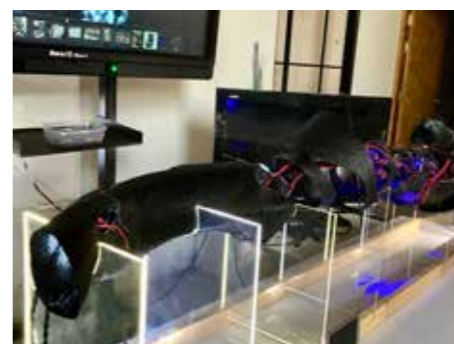
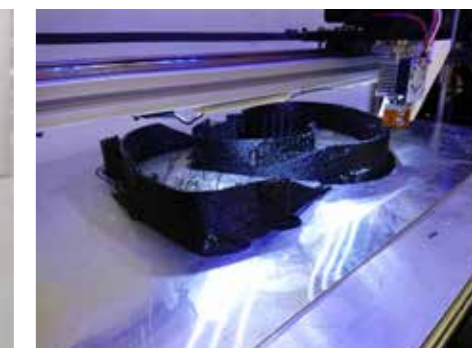
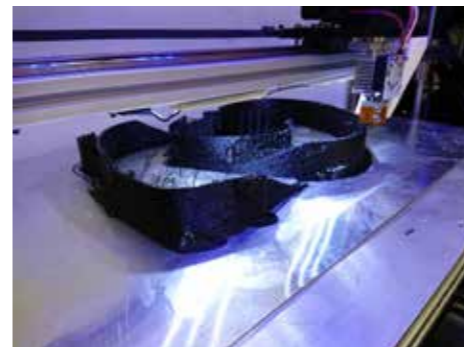
We are (VR) in the Void

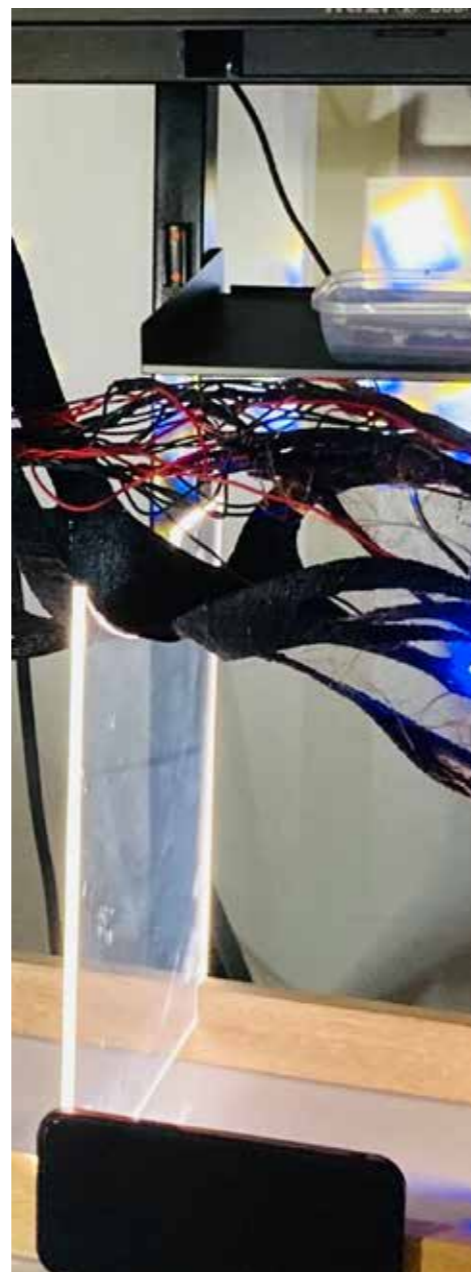
As the Covid-19 pandemic continued to interfere with students' ability to attend classes on site, online teaching and learning became a necessity. The result of these limitations was the development and deployment of the theme "We are (VR) in the Void. A truly hybrid approach that combined virtual modelling through Rhino and Gravity Sketch with physically reduced-scale models adapting limited and available ad hoc materials in students' home environments, along with a greater level of conversation about the project's implications via distance and online platforms.

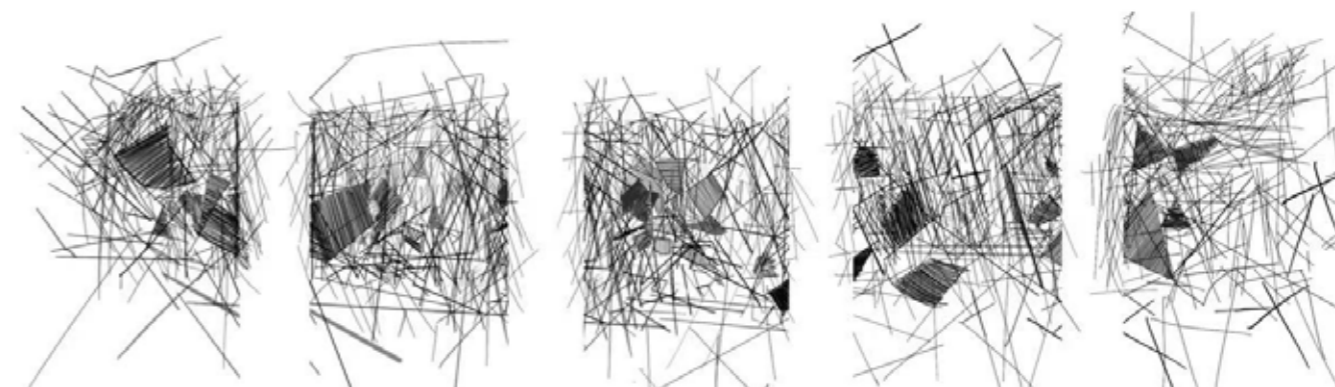
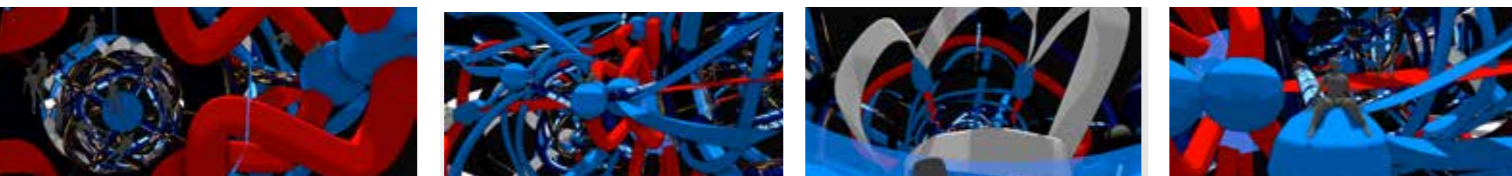
An unexpected development of these constraints was a more nuanced question of atmosphere as the studio existed completely in a void – stranded somewhere between the physical worlds geographically separated, the virtual world of computer simulations, online Zoom conversations, and the collective memory of all involved.











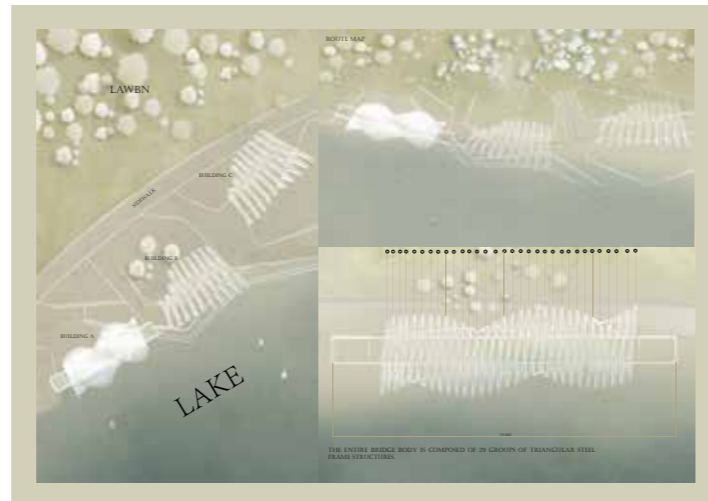
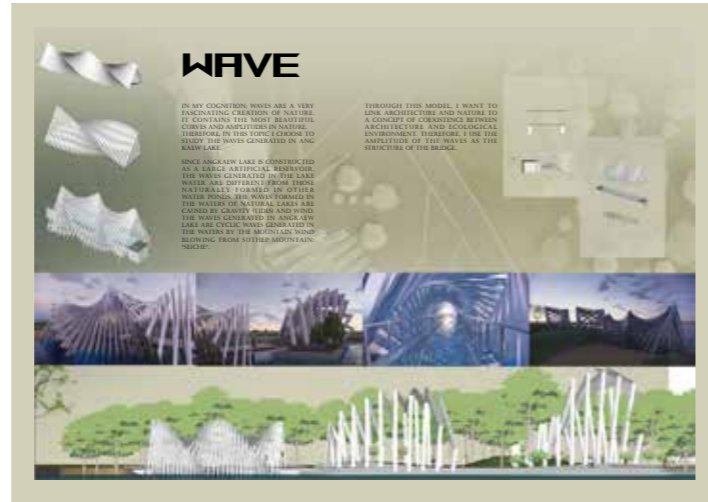
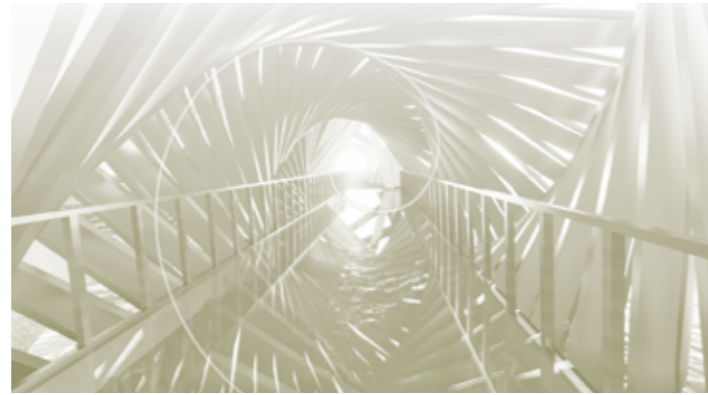
Year 03

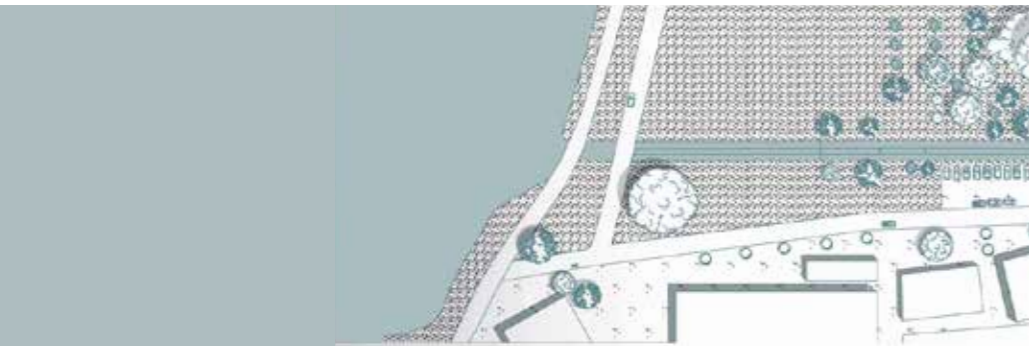
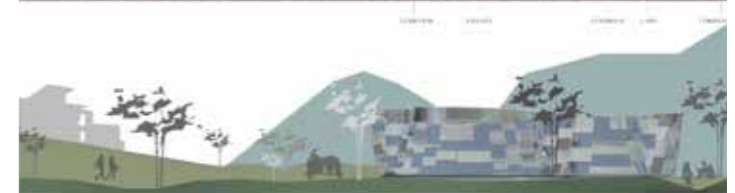
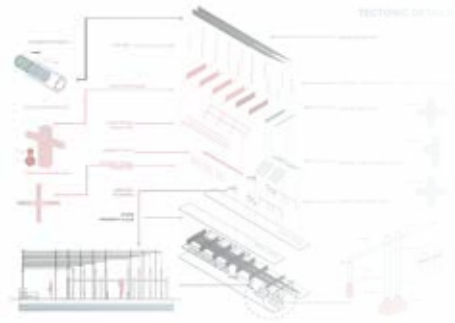
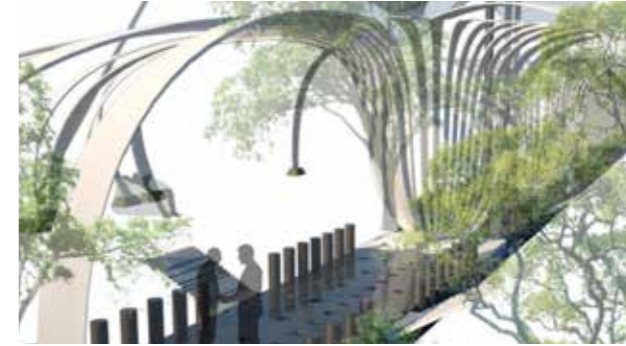
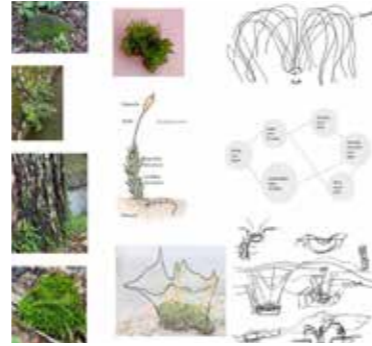
Creative Design in Architecture Studio 3

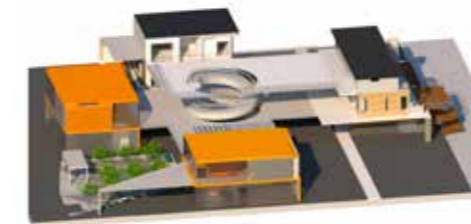
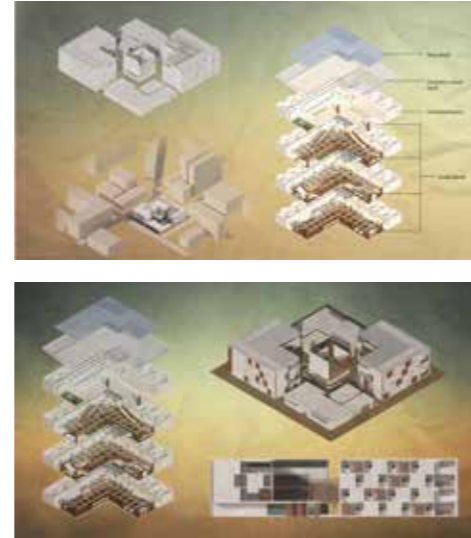
Instructors: Rattapong Angkasith, Edward Vincent
Students: Qianrui Cao, Yi Duan, Yiran Chen, JUNYUAN HUANG,
Zixin Huang, Nicha Jitmanee, Xueying Li, Zixuan Qiu, Shuna Yang,
Yunfang Zhang

Angkaew Pavilion

The primary focus of this project is tectonic articulation in which the construction methods and materials themselves are elevated to the level of artistic design to realize the edifice. Serving as a point of departure students are introduced to the Japanese post WWII Metabolist movement in which megastructures mimic the accumulation of new cells through biological growth. Conceptually, these "cells" took the form of modernist modular units that attached to clusters of robust minimalist infrastructure throughout a ruinous firebombed metropolitan Japan. Since then, the ideas established by metabolism have been refined through contemporary efforts of architects such as Kengo Kuma and Shigeru Ban. Metabolic accumulation is no longer achieved through inhabitable modular units but rather the accumulation of indexed materials at the smaller tectonic scale. Tectonics have become the driving language behind biomimetic design. It is in this vein that students are tasked with analyzing the site of the Angkaew Reservoir to deliver a functional biomimetic structure that harmonizes with the surrounding park while expounding on its sense of place.







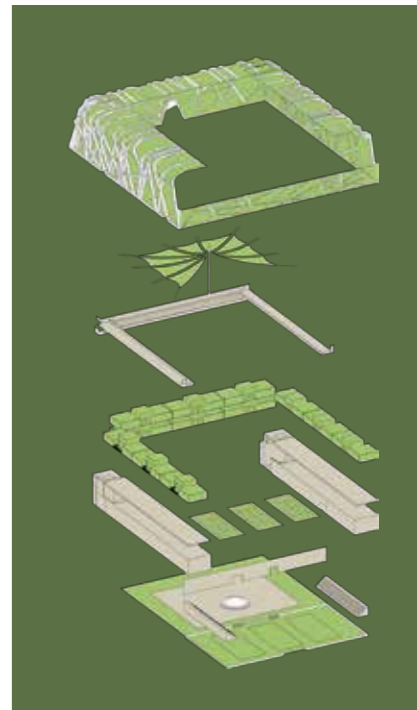
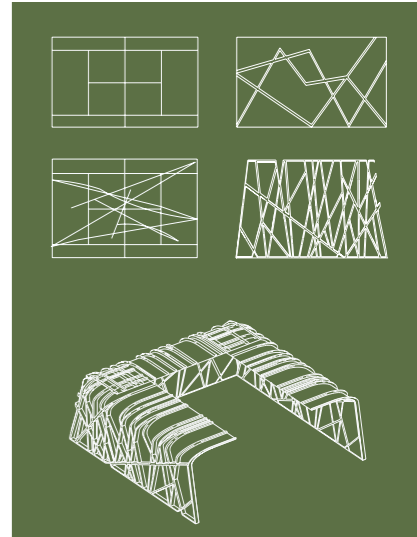
The Language of Poetry Architecture (Co-housing)

Haiku is a type of short form poetry originally from Japan. It is used to try to capture the essence of a natural ephemeral sensation in a single scene. When a series of Haikus can be told in succession an entire picture can begin to form. In the same way as film and movies, one way to tell a story in architecture is through the continuous framing or these individual haikus. Exemplified in the works of Tadao Ando, who focuses his Architecture on a single scene and uses ephemeral architectural language of scale, space, light, and movement to create visual Haikus.

Hong Kong New Wave Cinema Auteur Wong Kar Wai and Cinematographer Christopher Doyle's chef-d'œuvre "In the Mood for Love"; parallels these same sensibilities through the kindred medium of film. Set in 1960's Hong Kong, the story takes place in a communal living arrangement as two adjacent residents embark on a journey of unfulfilled desires.

The story opens with a Haiku and constantly recontextualizes this thematic overtone not through narrative structure but through a series of vignettes and recurring interactions to purposely obscure time, in favor of creating a cyclical lived in atmosphere. An inseparable motif to these exchanges is the cinematographers visual framing of space, light, and movement as central to capturing the intimacy not only between its enclosed subjects but also their relationship with the inhabited space.

It is this exploration of identifying with place that is central to the pursuits of second project of Year 3. In today's post pandemic continuum most find themselves battling isolation trapped in a cycle of social anxiety and unfulfilled desires. This project sets out to investigate communal housing's ability to effectively manage the hidden dimensions of private, social, and public space to serve as a respite from the collective woes of our modern burden. The secondary pursuit of the project is the realization of the edifice through the physical architectural language of mass, structure, surface, and materials.





Chiang Mai University Kindergarten

In his "Tomorrow's Architecture" lecture, Toyo Ito speaks of visiting famous Japanese garden Katsuya Rikyu in the Kyoto Imperial Palace and observing how boundless natural landscapes are navigated and reinterpreted through modal human perception as bounded environments whose borders dissipate like ripples with flexible programing adapting to contextual conditions. From this analysis he conceptually seeks to reincorporate this boundlessness back into the fabric of the built environment through a codified indeterminacy. Serving as treatise, Sendai Mediatheque juxtaposes the verticality of the urban environment to a natural horizon with the intended desire of blending the typologies.

Students are asked to study the works of Ito, SANAA, Ishigami, Fujimoto, and more in order to understand how indeterminant objects are formalized into programmatic space. Starting with found object modeling, students the move into conceptualizing how these design studies can be occupied. Inherent in these spatial occupations is a playfulness that overlaps with the projects programmatic pursuits of designing a space for small children, a kindergarten. Here students focus on the anthropometrics of child psychology being introduced to concepts of forest kindergartens, adventure playgrounds, and play spaces as urban microcosms — taking that dichotomy and finding likeness that is site specific. The second half of the project focuses on design development through realization of structure, tectonics, building envelope, climatization, interior articulation, and systems detailing in-line with each projects conceptual interest.





Year 04

Creative Design in Architecture Studio 5

Instructor: Komson Teeraparbong

Students: Lapatthanin Joungsuwadee, Suwijak Puketayanon, Suvisit Pumcharoen Wachanaphong Srimungkhun

Independent Research and Experimentation in Design

The final year of the IDEA program focuses on individual research and design in three phases. The first asks students to understand contemporary architectural approaches in order to conceive of their own design based upon these spatial and architectural theories. Students are further tasked to define a subject of interest and develop a methodology for investigation.

The second phase is a more in-depth analysis of selected architectural theories in order to conceptualise their individual architectural designs through a process of experimentation, models, and prototypes.

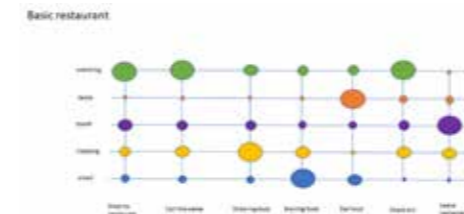
The third phase is one of emerging architecture; the application and testing of the prior theory and design experiments in order to create a programmatic proposal for intervention.



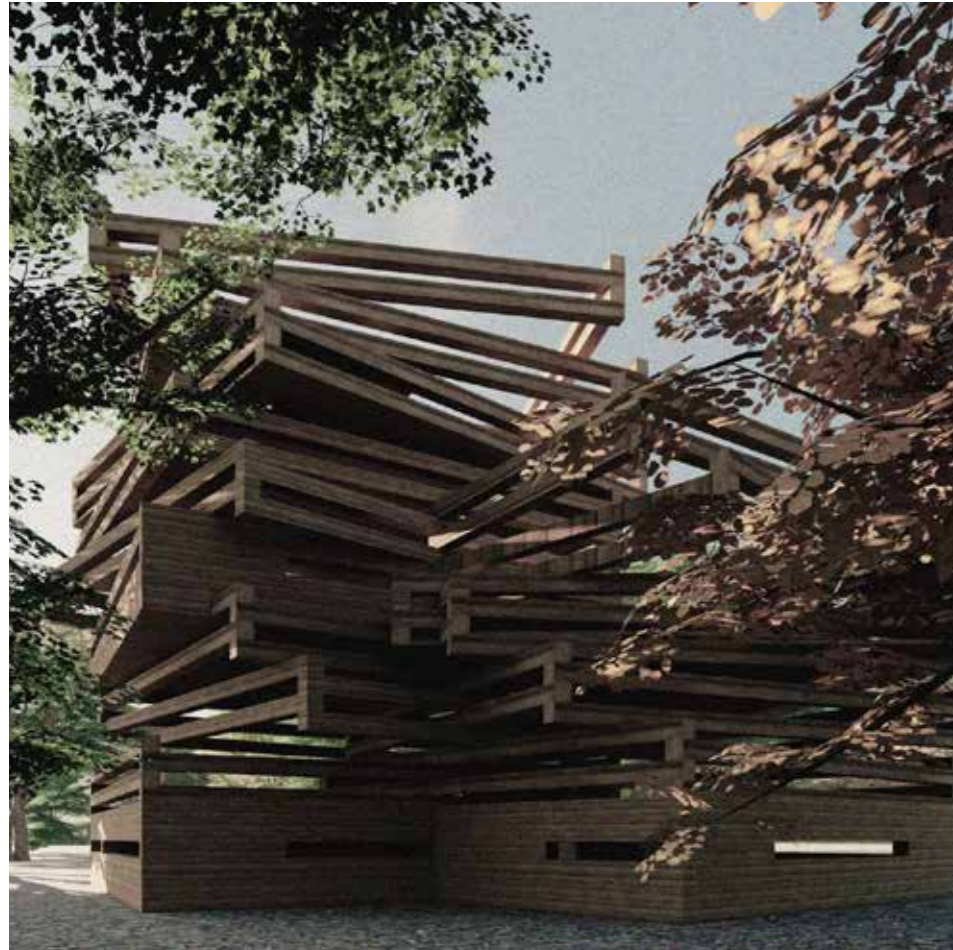
- ### 5 SENSE OF HUMAN PERCEPTION
1. The Eyes translate Light into Image Signals for the Brain to Process
 2. The Ears Uses Bones and Fluid to Transform Sound Waves into Sound Signals hearing Suffering deaf hearing aid
 3. Specialized Receptors in the Skin Send Fourth Signals to the Brain Touching feeling cold, hot, warm texture
 4. Olfaction: Chemicals in the Air Stimulate Signals the Brain Interprets as Smells smelling drink odor smoke flowers
 5. Taste of the Taste Buds: The Tongue is the Principal Organ of Gustation tasting sweet sour spicy salty bland

Space of Eating

Suwijak Puketayanon

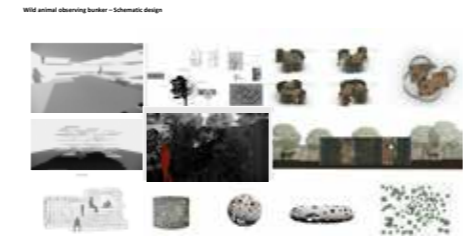
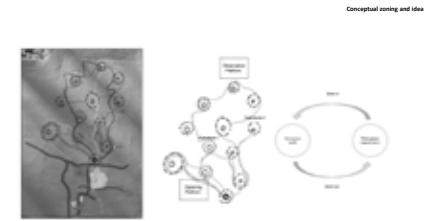
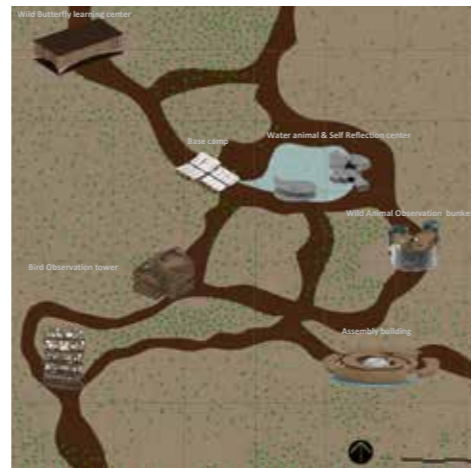




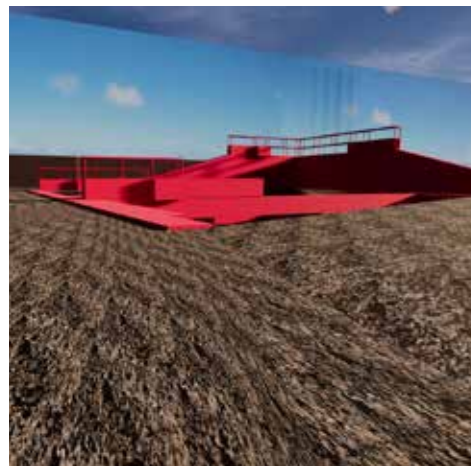
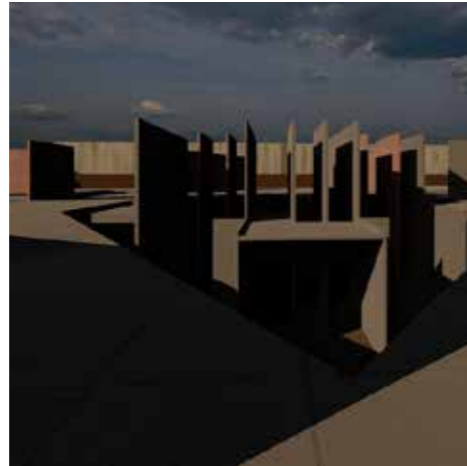


Seeing with out Being Seen

Suvisit Pumcharoen

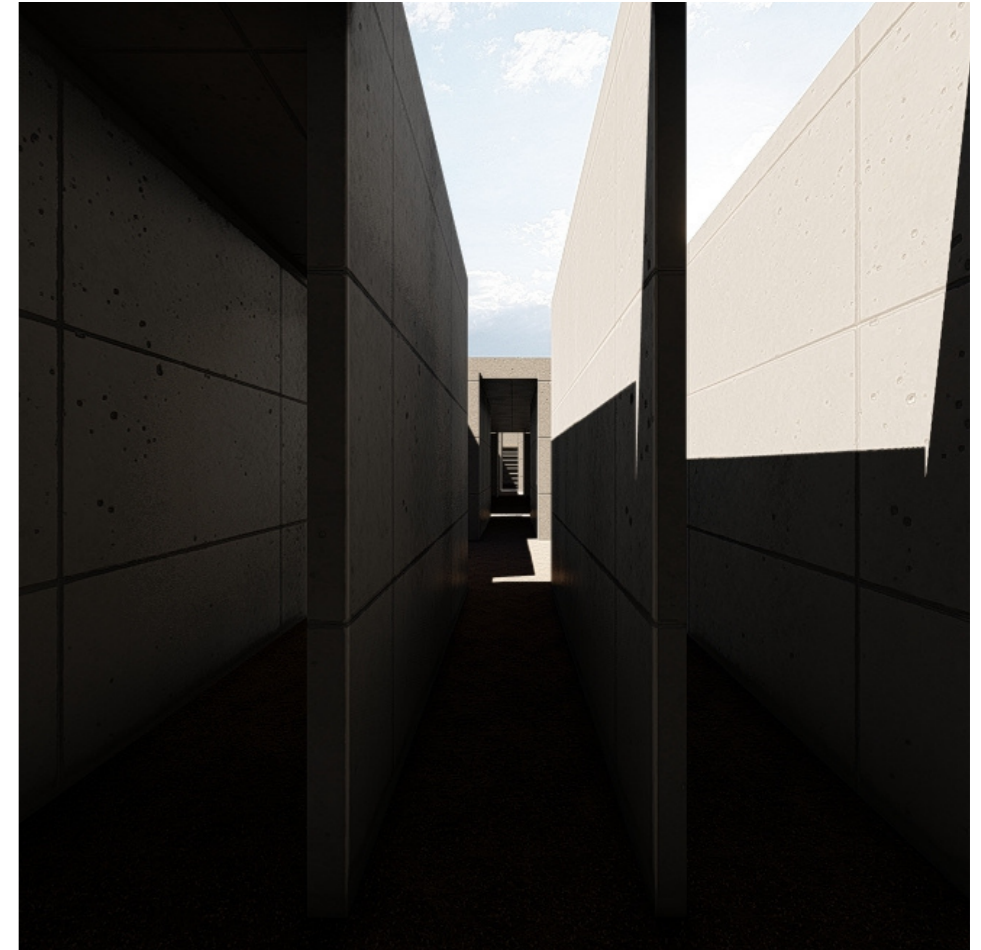
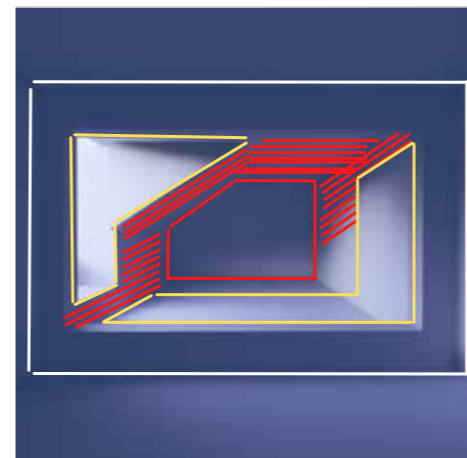






Miyakegima Memorial

Lapatthanin Joungsuwadee





Side 1

HUMAN TAKE AN ACTION

after human able to create voice to communicate, they use it to formation social and living life forms

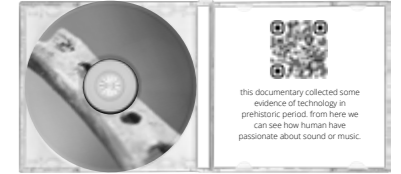


LIVES ON HIGH GROUND Lives in a cave

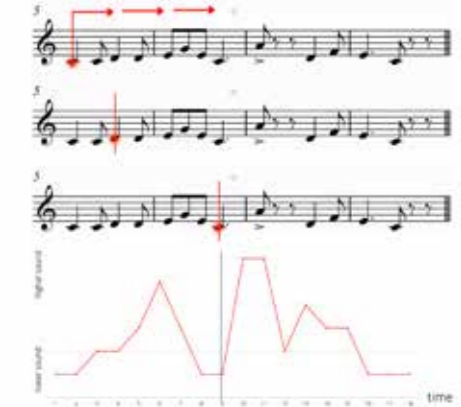
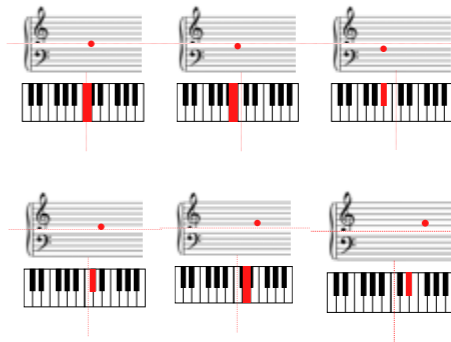
AGRICULTURE HUNT MOVE
 LIVE NEAR RIVER STAY



focus time 00:15 - 00:30 min.
 This suggests us that human was really interesting into sound. And also show us that actually, it is many kinds of possible way for human to explore sound in the past even though, without any technology, a human can do such thing to make sound.

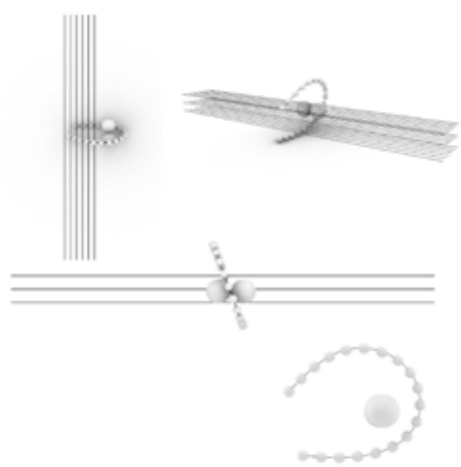
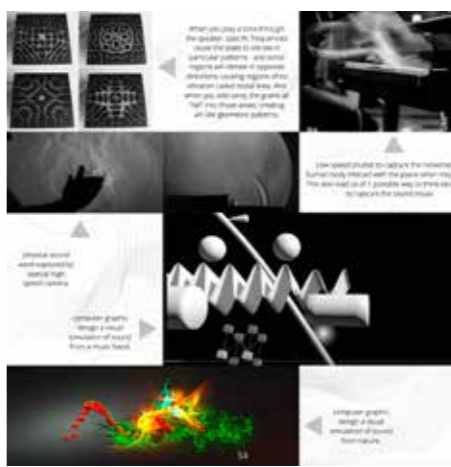
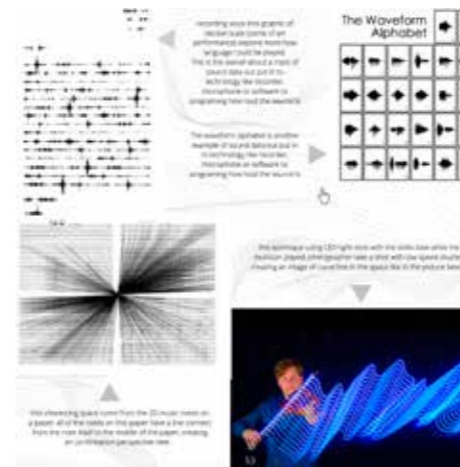


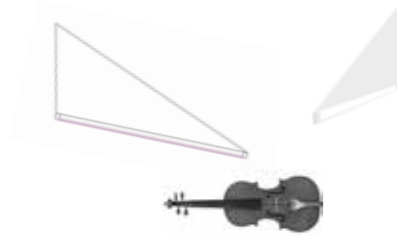
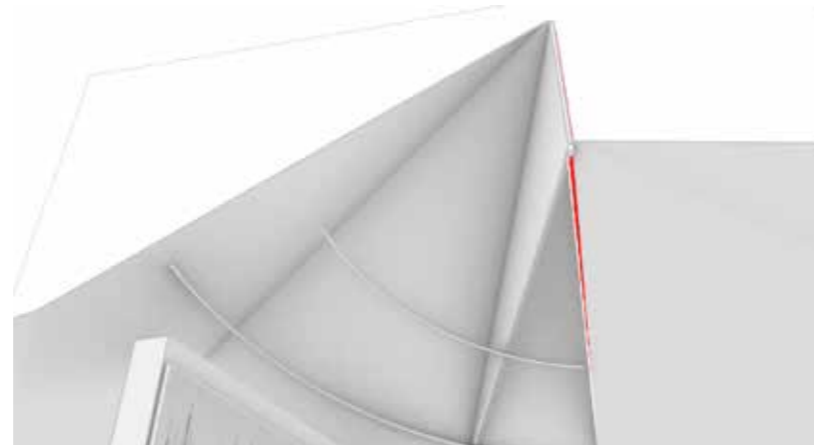
this documentary collected some evidence of technology in prehistoric period. from here we can see how human have passionate about sound or music.



Music Texture

Wachanaphong Srimungkhun





SITE



CHAPEL OF Presentation

Condition – design approach and str:



CHAPEL OF Presentation

SITE



CHAPEL OF Presentation

SITE



CHAPEL OF Presentation

Selected SITES B



CHAPEL OF Presentation

Existing building

Existing building
The existing building is a traditional chapel with a gabled roof and a central steeple. It is located on a hillside and is surrounded by trees and a paved area.



CHAPEL OF Presentation

SITE

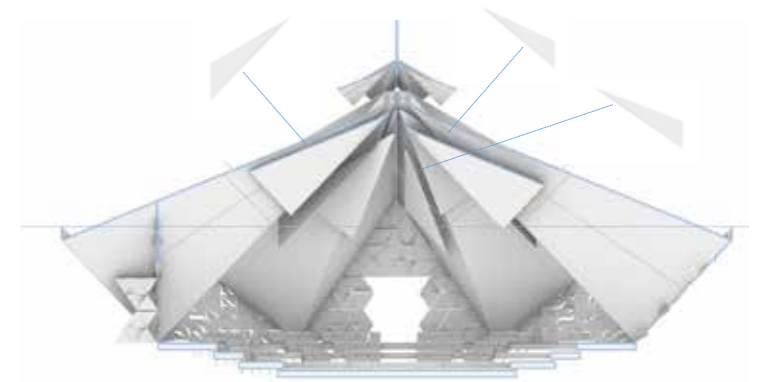
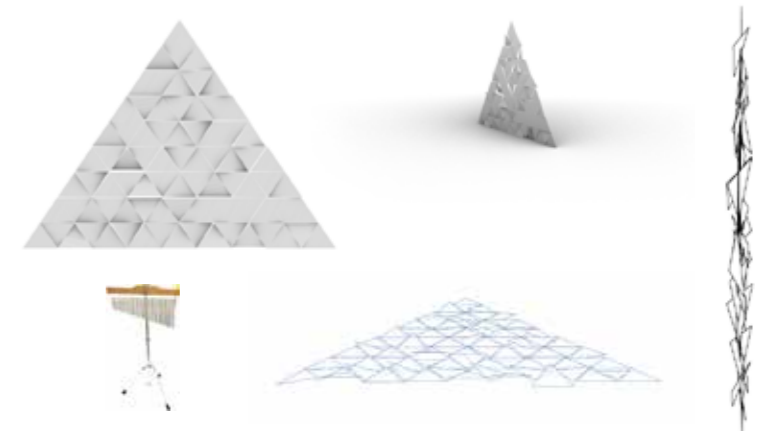


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SITE



CHAPEL OF Presentation



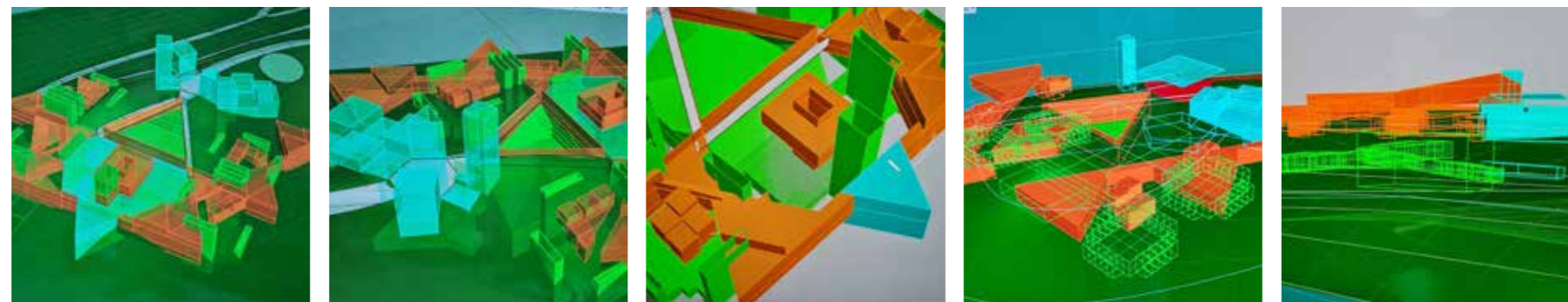
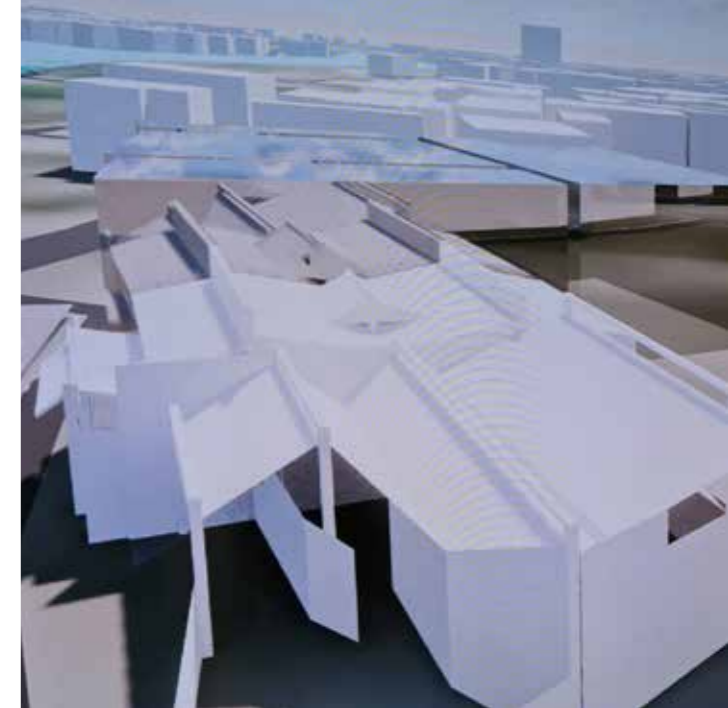
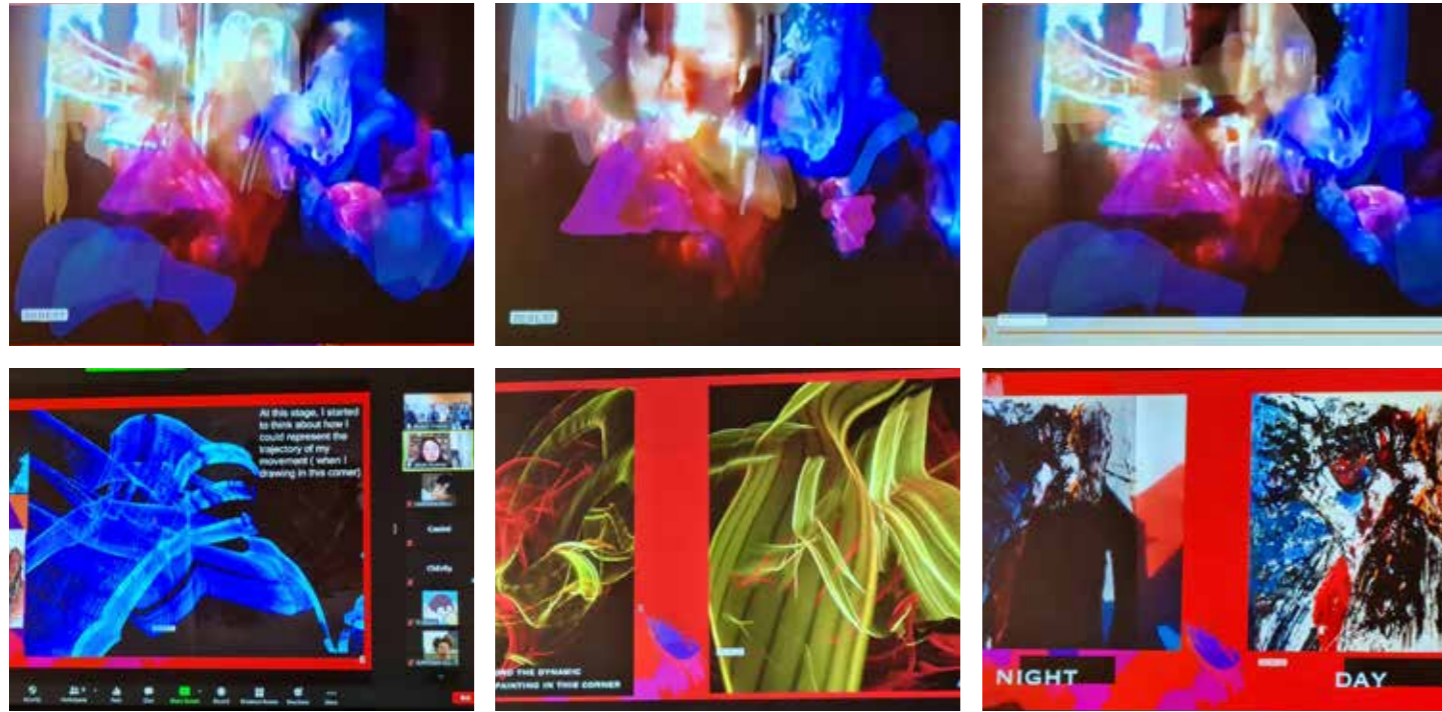
Pin-Ups & Crits

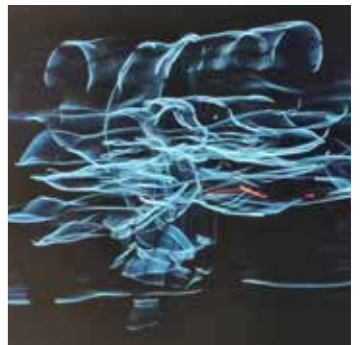
Across the Program's teaching agenda, methods and experimentations, IDEA organizes studio presentations in the format of open-to-public critiques. The external critics open a wider perspective into studio works and ethics, and question the quality of thinking and process of experimentation between design ideas and the final works.

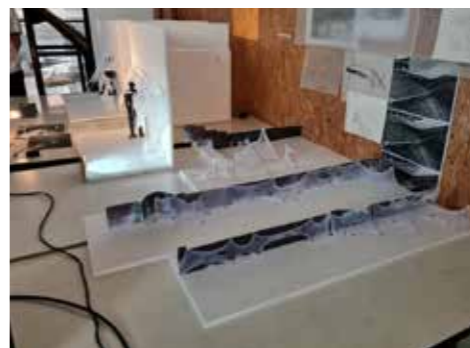
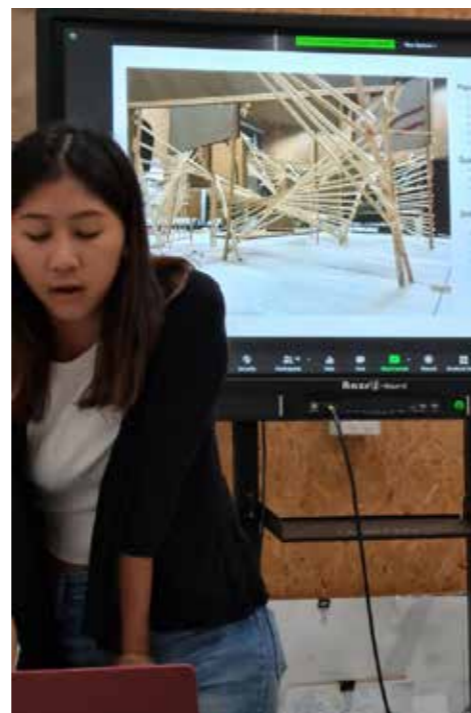
During the semester, there are a series of informal pin-up sessions concerning students' development of their ideas of spatial organization and architectural space design.

Each semester, and each year, the open-to-public critiques generate fascinating exploratory dialogues, and showcase new ways of looking and the diversity of thoughtful and subtle works.



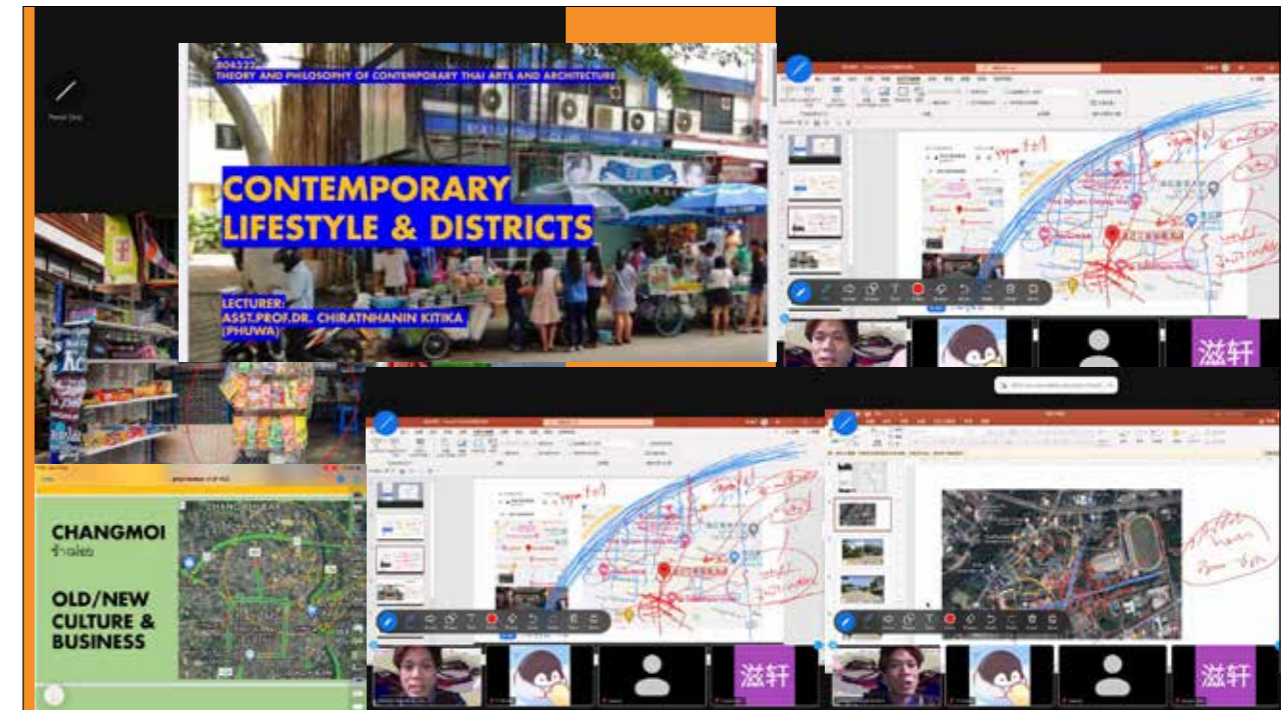
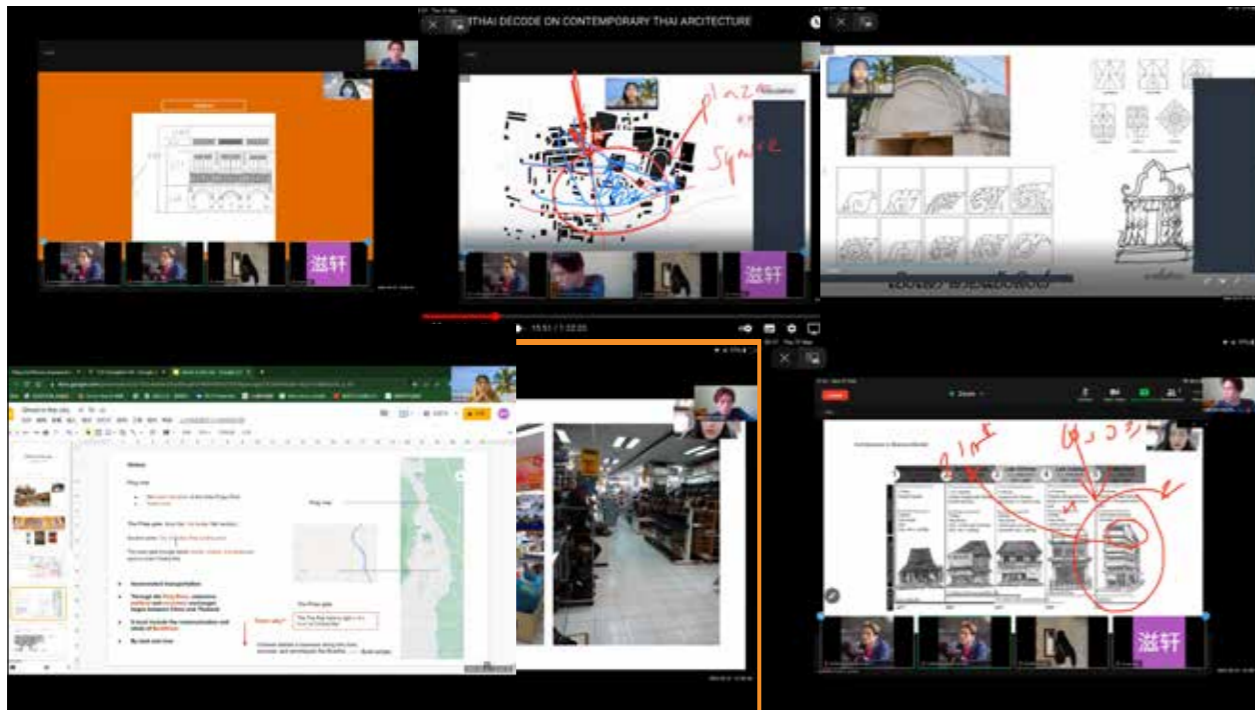
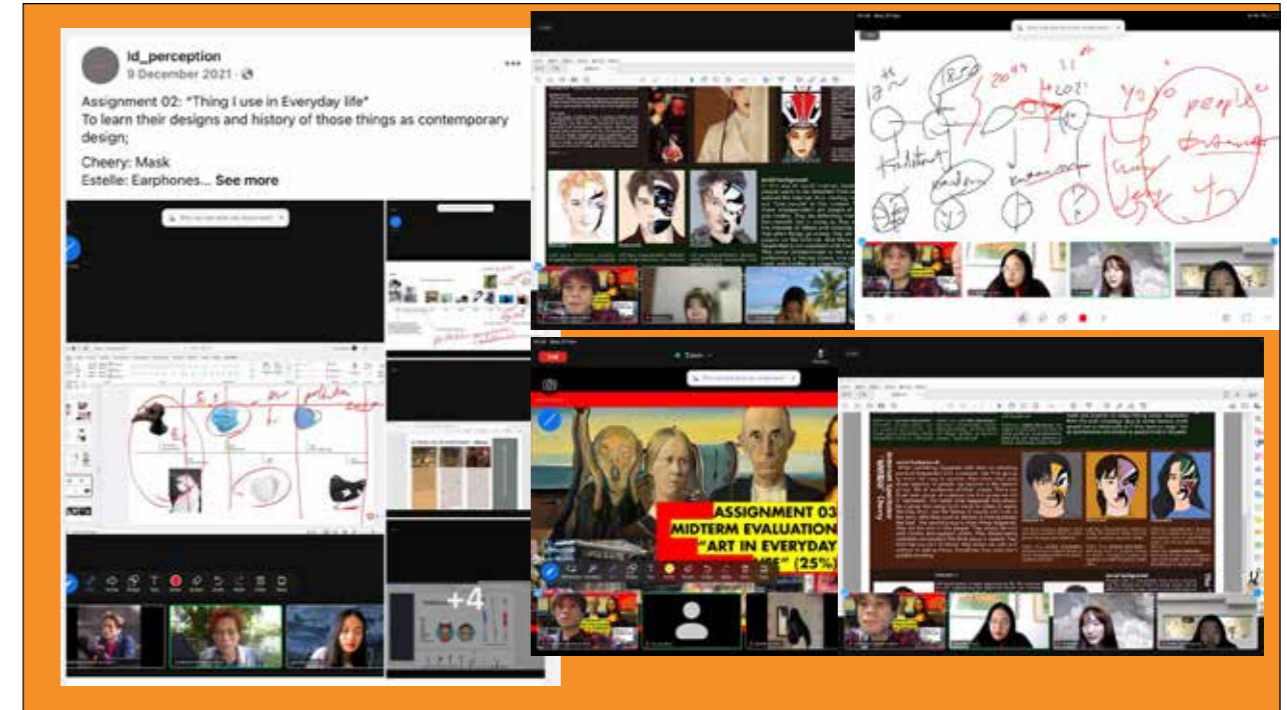


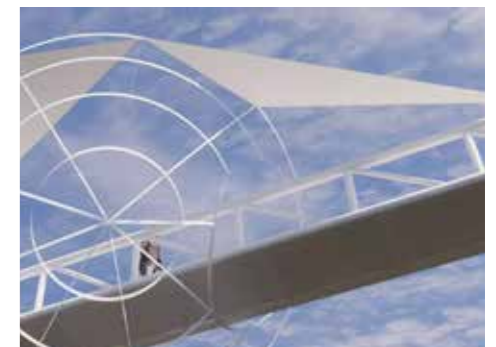
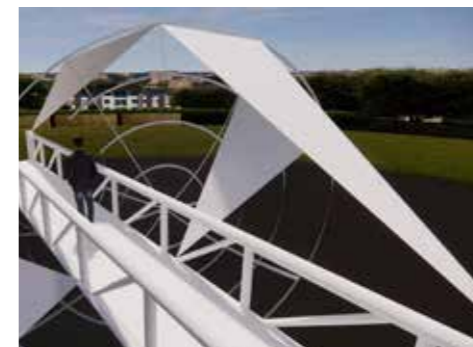
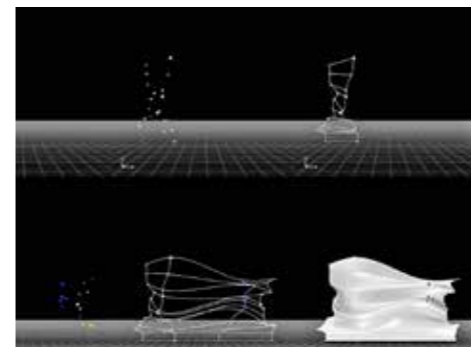




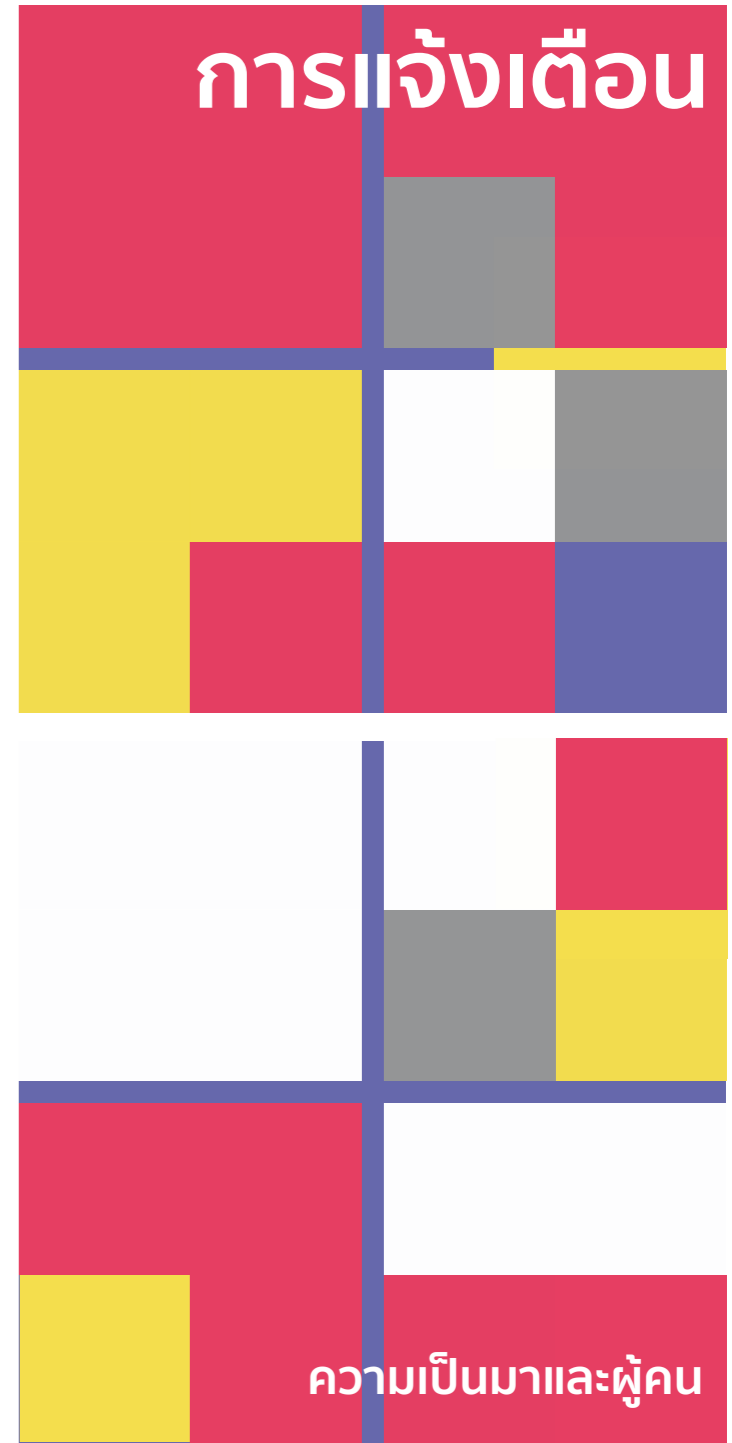
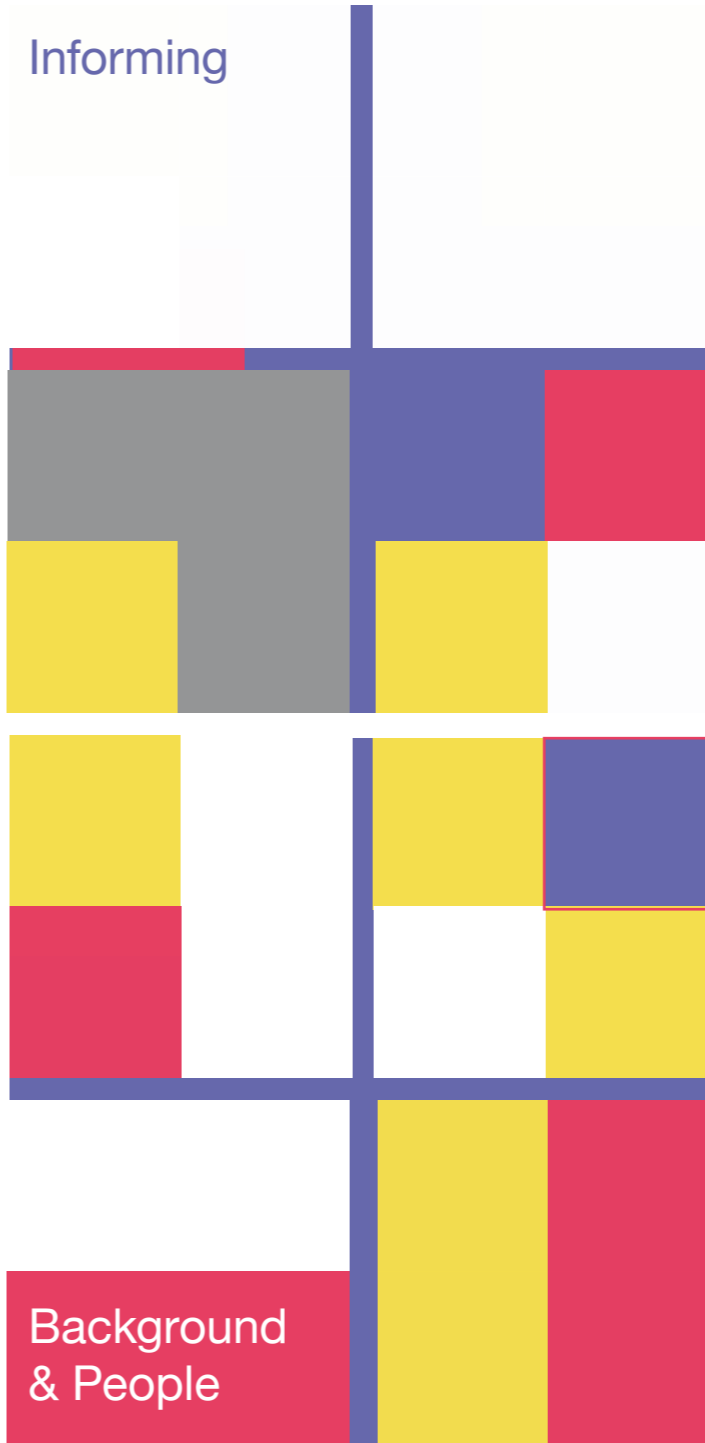
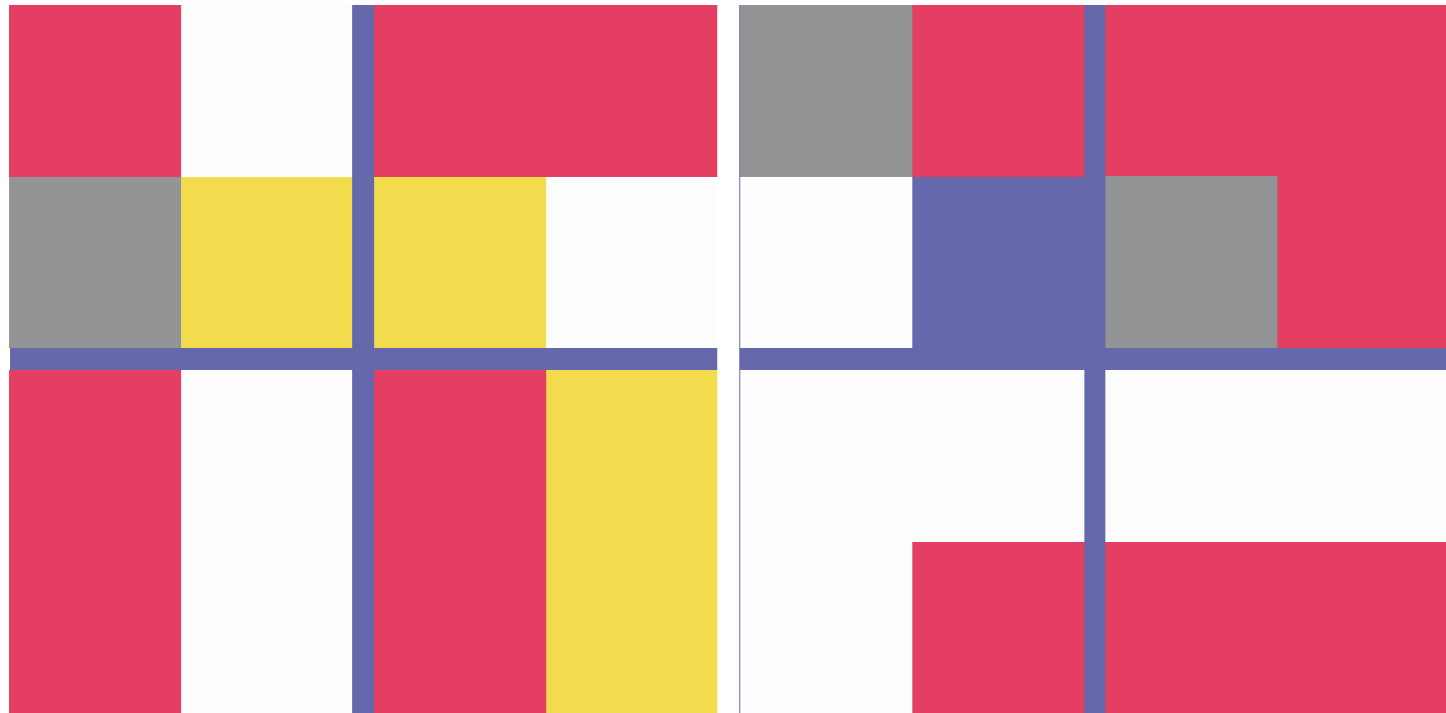


Classes & Lectures









About ARCHCMU

The Faculty of Architecture, Chiang Mai University (ARCHCMU)

The Faculty of Architecture (ARCHCMU) opened its doors as a major center of architectural education in the Northern region of Thailand in June 1995. Established within one of the most prestigious faculties of Fine Arts in Thailand, the Department of Architecture then established its pedagogical philosophy with the first group of students in the academic year of 1995-1996.

After a couple of years of an innovative approach in teaching, learning and researching architecture, on the 3rd June 2000 the Faculty of Architecture was completely authorized to take on faculty status. Since then, ARCHCMU has attained a reputation for a high standard of teaching, learning and researching Architecture and ARCHCMU has gradually become one of the top Architectural Schools in Thailand.

Our long-term goal is to pioneer ARCHCMU as a center of excellent education within the region and to lead our students to the highest ability with the use of ARCHCMU as a laboratory to help them grow into the leaders in their fields. Students will develop their skills and intellectual abilities so as to be able to approach formal and informal design challenges. ARCHCMU will help them to continue with further innovations of their ideology and architectural design process. We probe, push, interrogate and ensure that students acquire not just the fundamentals of their field, but also the ability to articulate critically,

to see the broader implications of their design proposition and to deeply understand the design process in which they are engaged.

The faculty is comprised of a diverse group of students, academic staff and an administrative support team. There are currently around four hundred students in the faculty divided into five academic years, plus an additional forty local and international students who are enrolled in the Master's program. There are regular student activities and events designed to strengthen the bond of this community, organized by the ARCHCMU Student Union and ARCHCMU Alumni Association (FACMUAA), which also helps to foster professional relationship after graduation. ARCHCMU is affiliated with important organizations relating to the architectural and construction industry such as The Association of Siamese Architects under Royal Patronage (ASA) and ASA Lanna, the Northern chapter of ASA. The faculty has well-established academic and research collaborations with a number of international architecture schools and research organizations, as well as the annual International Lecture Series where leading architects from Thailand and abroad are invited to share their knowledge and design philosophies with the ARCHCMU community.

General Information IDEA Program

Bachelor of Science Program in Integrated Design in Emerging Architecture (IDEA)

Integrated Design in Emerging Architecture (IDEA) is a 4-year Bachelor of Science (B.Sc) English language international program offered by the Faculty of Architecture, Chiang Mai University. Situated in the oldest higher education institution in the region and surrounded by a culturally and historically vibrant urban backdrop, the program is dedicated to nurture students' critical thinking and independent design capabilities with the knowledge of the latest digital design and fabrication skills that are increasingly being sort-after in the architectural and design community both locally and overseas.

With a particular focus on innovation and experimental design, the 4-year curriculum aims to ground up students' architectural design knowledge from an interdisciplinary approach that includes social, physical, life sciences and beyond. Throughout their studies, students will integrate diverse design values from a wide range of creative design industries, whilst the unit system in each year offer varies opportunities for students to investigate and develop their creative thinking process behind their production outcomes. The program is formulated from the belief in creative design values that lead to the core of any principles in design businesses that require an innovative thinking approach.

As Chiang Mai is emerging to become a key player in the local and global creative industry, the IDEA program is perfectly suited to provide its graduates with the best opportunities to develop a successful creative design career and become future leaders in design-value-oriented businesses. Furthermore, the program is constructed according to dialectical forms of knowledge and practice with creative experimentation in order for students to understand the value process of architectural and spatial design. The program will give special emphasis to teaching, training and communication in English, with a dedicated team of international design academics and practitioners and the opportunity to take part in internships abroad in the latter part of the course, in order for students to build the best design thinking foundation for their further studies and interests after graduation.

General Program Information

Four-year study plan

STUDENT CODE 60-61

General Education **30 Credit Hours**

Language and Communication 6
 Humanities and Social Sciences 12
 Science and Mathematics 9
 Learning through Activities 3

Field of Specialization **Not less than 105 Credit Hours**

Core Course 36
 Major not less than 69
 Required Courses 54
 Major Elective not less than 15
 Minor None

Free Elective(s) **Not less than 6 Credit Hours**

TOTAL **141 Hours**

STUDENT CODE 62

General Education **30 Credit Hours**

Language and Communication 12
 Humanities and Social Sciences 9
 Science and Mathematics 6
 Learning through Activities 3

Field of Specialization **Not less than 105 Credit Hours**

Core Course 36
 Major not less than 69
 Required Courses 54
 Major Elective not less than 15
 Minor None

Free Elective(s) **Not less than 6 Credit Hours**

TOTAL **141 Hours**

STUDENT CODE 63

General Education **30 Credit Hours**

Required Courses **21**
 Learner Person 15
 Innovative Co-Creator 3
 Active Citizen 3

Electives **9**

Learner Person
 Innovative Co-Creator
 Active Citizen

Field of Specialization **Not less than 105 Credit Hours**

Core Course 36
 Major not less than 69
 Required Courses 54
 Major Elective not less than 15
 Minor None

Free Elective(s) **Not less than 6 Credit Hours**

TOTAL **141 Hours**

STUDENT CODE 64

General Education **21 Credit Hours**

Required Courses **21**
 Learner Person 15
 Innovative Co-Creator 3
 Active Citizen 3

Electives **9**

Learner Person
 Innovative Co-Creator
 Active Citizen

Field of Specialization **Not less than 96 Credit Hours**

Core Course 36
 Major not less than 60
 Required Courses 45
 Major Elective not less than 15
 Minor None

Free Elective(s) **Not less than 6 Credit Hours**

TOTAL **132 Hours**

IDEA_Integrated Design in Emerging Architecture
Faculty of Architecture Chiang Mai University
2021 - 22 / 2564 - 65

Facilities

New Learning Spaces

Smart Presentation Room
Video Wall Presentation Room
Air Purifier X Studio
New Learning Unit Studio
ARCH FABLAB 3D Printing
ARCH FABLAB Laser Cutting
ARCH FABLAB Robot Arm
CLIC Maker Space
Learning Library
Wood Workshop
Steel Workshop

New Learning Equipment

Fabrication Equipment

3D Printers	5 sets
Laser Cutters	4 sets
CNC Machine	1 set
Robot Arm	1 Set

Metaverse

VR : Virtual Reality Oculus Quest 2	15 sets
MR : Mixed Reality Hololens	2 Sets in 2023











