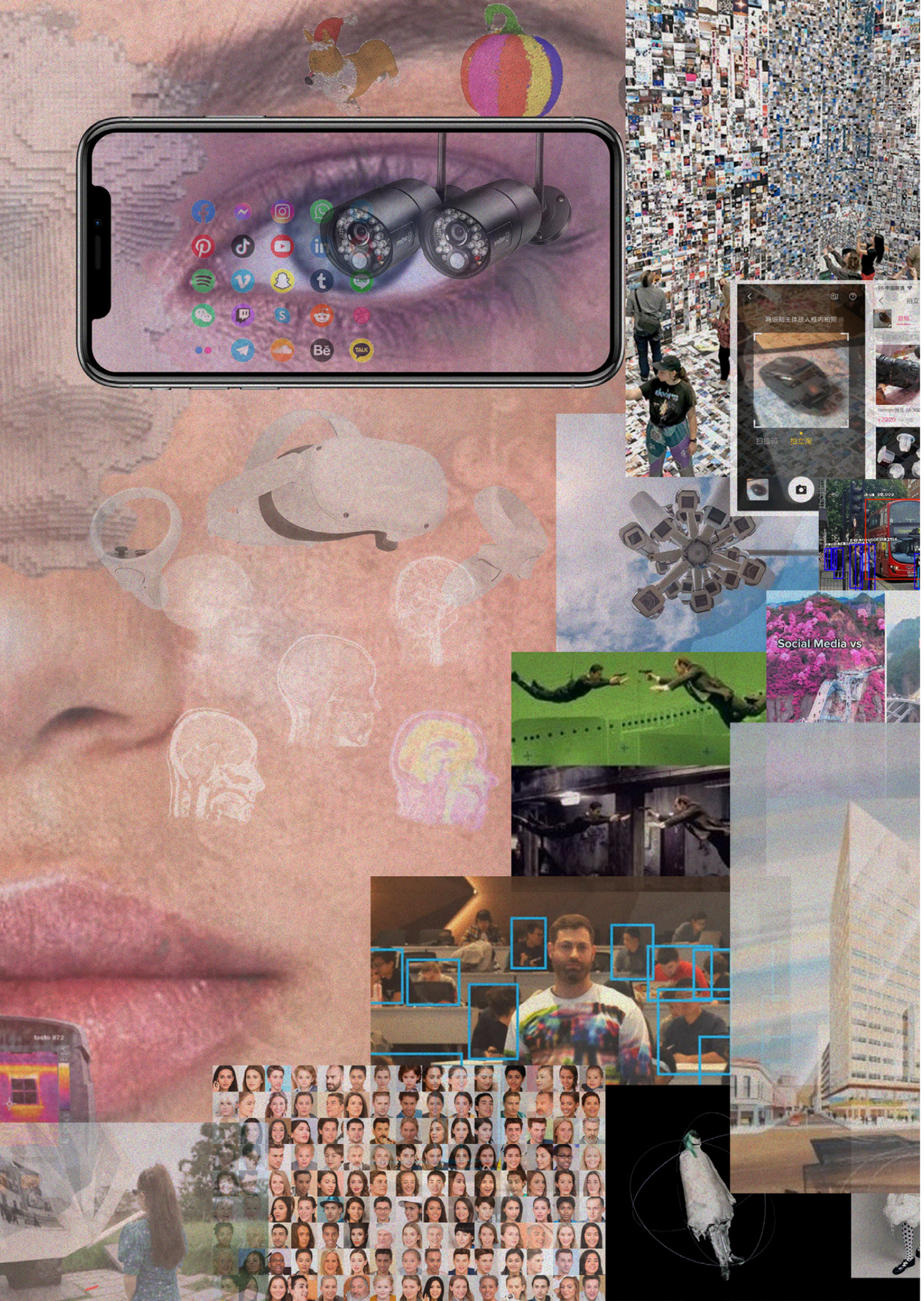
PORTFOLIO | XU ZIQIAN

SELECTED WORKS

2024 - 2025

CONTENT



01

"Expanded" Vision

Research of (In)visible Images

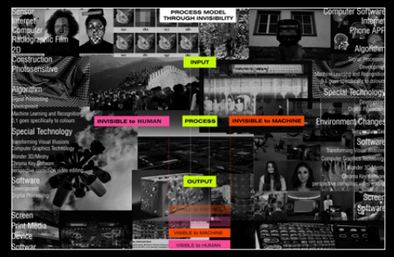
Site: N/A
Group Work
Partner: Yuewen Jing, Jieyu Yang
Summer 2024, Adv Arch Design Studio
Instructor: Michiel Helbig, Corneel Cannaerts

The amount of images produced each year is increasing exponentially, this is partly due to the increased accessibility of cameras and smartphones and social media and image sharing platforms. Additionally there is a rapid increase in images that are not meant for humans to look at but are part of machinic operations, ranging from computer vision, to surveillance technologies, to the vast datasets used in machine learning and artificial intelligence. While these technologies lead to increased visibility our research indicates that the resulting post-digital media ecology paradoxically also leads to a decreased visibility. Our fieldguide explores this paradox, proposing an expanded vision that includes human and machines, exploring operational images in terms of input, process and output.

The project aims to display the interconnectedness of all of these spaces, screens and interfaces. Through consciously submitting to this voluntarily surveillance the project demonstrates that a seemingly straightforward situation - three architecture students working on a collective project - reveals a complex spatial reality, an ecology of interrelated media.

FIELDGUIDE

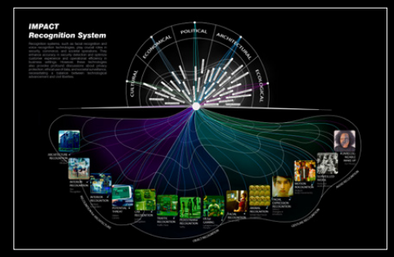

"EXPANDED" vision
"(IN)VISIBLE IMAGE"


PROCESS MODEL THROUGH INVISIBILITY
INPUT
INVISIBLE to HUMAN
PROCESS
INVISIBLE to MACHINE
OUTPUT
VISIBLE to MACHINE
VISIBLE to HUMAN

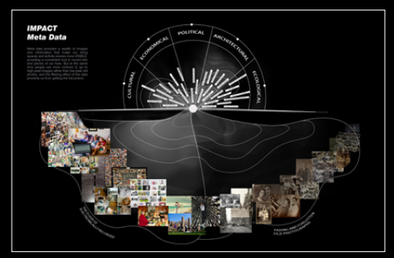

INPUT
PROCESSING
OUTPUT


INVISIBLE
vs
VISIBLE
In this post digital era, image culture makes the world more (in)visible.
so how does TECHNOLOGY influence us?
ALGORITHM
SOCIAL MEDIA
"EYES" CAMERA
ULTRA REALITY

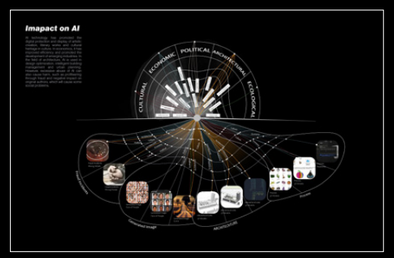

DETECT vs HIDE
LESS Privacy
MORE Information
Failed attempt


IMPACT
Recognition System


Filter Bubble
PRESENT vs ABSCENT
Massive Information

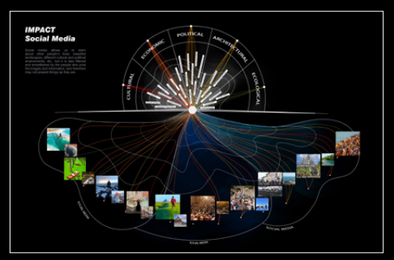

IMPACT
Meta Data


GENERATING vs CHEATING

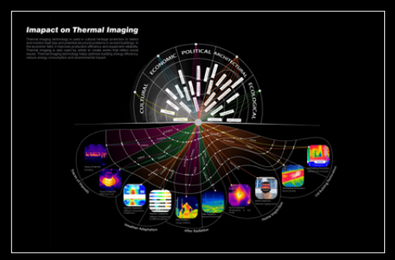

Imapact on AI


Normal Reality
FAKE vs REALITY
Fantasy Reality Online

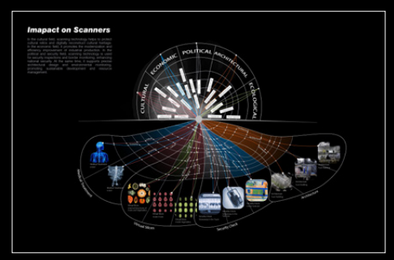

Highly developed
HOT SPOT vs BLIND SPACE
Heavily Restricted


IMPACT
Social Media

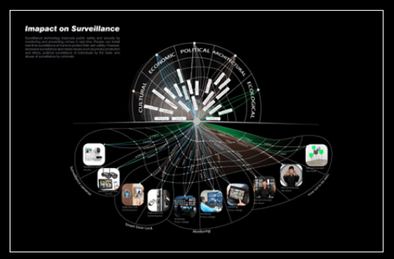

Building in the Real World
VISUAL vs ACTUAL
Building in the Thermal Imaging


Imapact on Thermal Imaging

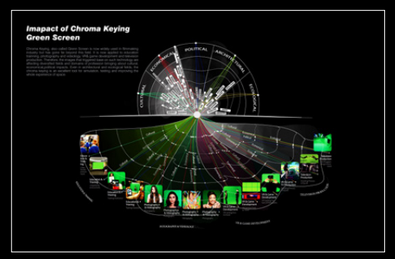

INSIDE vs OUTSIDE
Structure of Objects
Shape of Objects


Imapact on Scanners

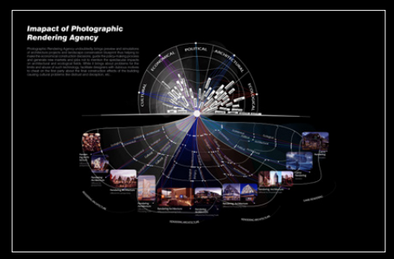

MORE SAFETY
Brought by Security System
HIDDEN CAMERA DETECTOR
SURVEILLANCE vs PRIVACY
LESS Privacy
Due to Over-Monitoring


Imapact on Surveillance

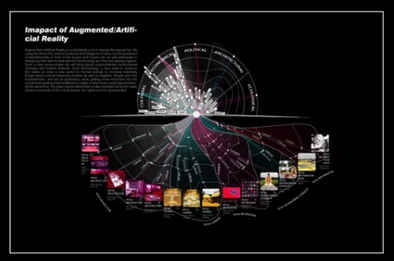

DIVERSIFIED SCENES EFFECTS MORE VISIBLE
POST-PRODUCTION vs REALITY
SHOOTING SPOT/SCENES LESS VISIBLE


Imapact of Chroma Keying
Green Screen

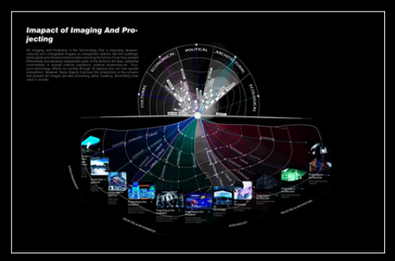

SELECTIVE DETAILING
ENHANCE LIGHTING AND ATMOSPHERE
CONTEXTUAL INTEGRATION
RENDERING vs REALITY
VISUALIZATION BEFORE CONSTRUCTION OF ARCHITECTURE

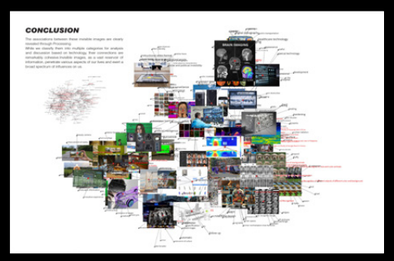

Imapact of Photographic
Rendering Agency


FANCY IMAGES ENRICHING REALITY MORE VISIBLE
AUGMENTED vs REALITY
REALITY AND CONTEXTUAL ENVIRONMENT LESS VISIBLE

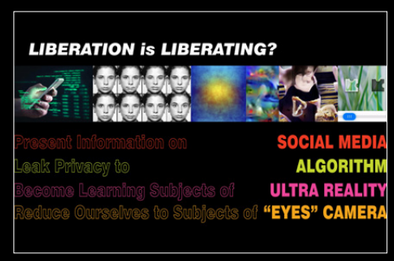

Imapact of Augmented/Artificial Reality


VARIOUS TYPES OF SIGNS MORE VISIBLE
MAPPED vs REALITY
CITY OF BUILDING ITSELF LESS VISIBLE


Imapact of Imaging And Projecting


CONCLUSION


Paradox of
"Expanded" Vision


LIBERATION is LIBERATING?
Present Information on
Leak Privacy to
Become Learning Subjects of
Reduce Ourselves to Subjects of
SOCIAL MEDIA
ALGORITHM
ULTRA REALITY
"EYES" CAMERA

Social Media Space

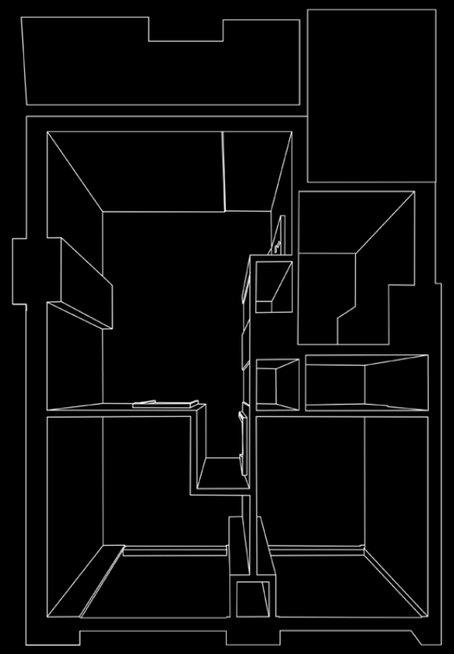
We split invisibility into two categories: one for machines and one for humans. But what surprised us is that nowadays, invisibility tends to be temporary. There are very few images that remain permanently invisible to either machines or humans. In most cases, people and machines work hard to turn temporarily invisible images into something readable for either humans or machines. Invisible images are increasingly intervening in all aspects of everyday life, their functions changing from representation and mediation, to activations, operations, and enforcement. While these technologies lead to increased visibility our research indicates that the resulting post-digital media ecology paradoxically also leads to a decreased visibility.

EXPANDED VISION

Plan of Apartment

The plan is composed of three different layers. The first layer is a floor plan generated from partial information leaked on social media. In the digital media age, it is easy to know where someone lives and find the floor plan of the residence. The second layer is an indoor model generated by Agisoft. We assume that the device is always monitoring us. In this case, the photos taken according to our path can generate a fragmented and incomplete apartment model. The third layer is a detailed indoor model scanned by Polycam. When it is superimposed with the first two layers, it can be found that the information we actively share and the information passively leaked can almost be pieced together into a complete model. Through these experiments, we explored voluntary and involuntary.

LAYERS OF PLAN

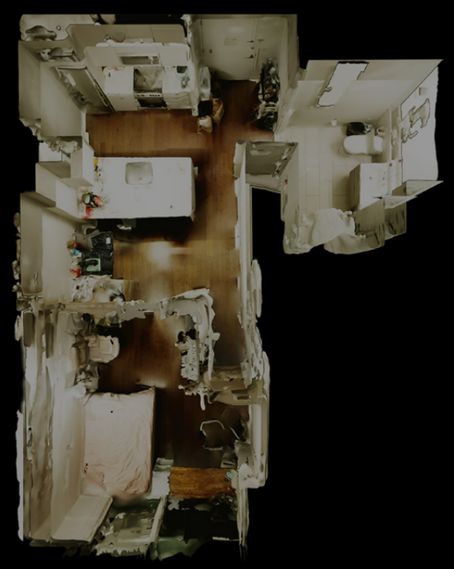


Wall

We can get a series of voluntary information on social media, which allows us to outline the general layout of the room.

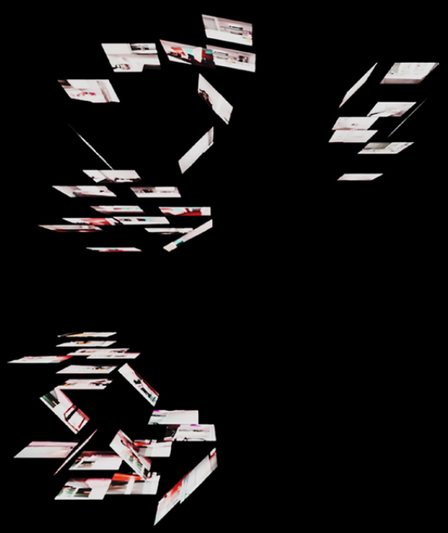
Agisoft

We import the pictures and videos into Agisoft, which will identify our shooting location and path and then generate an incomplete apartment model.



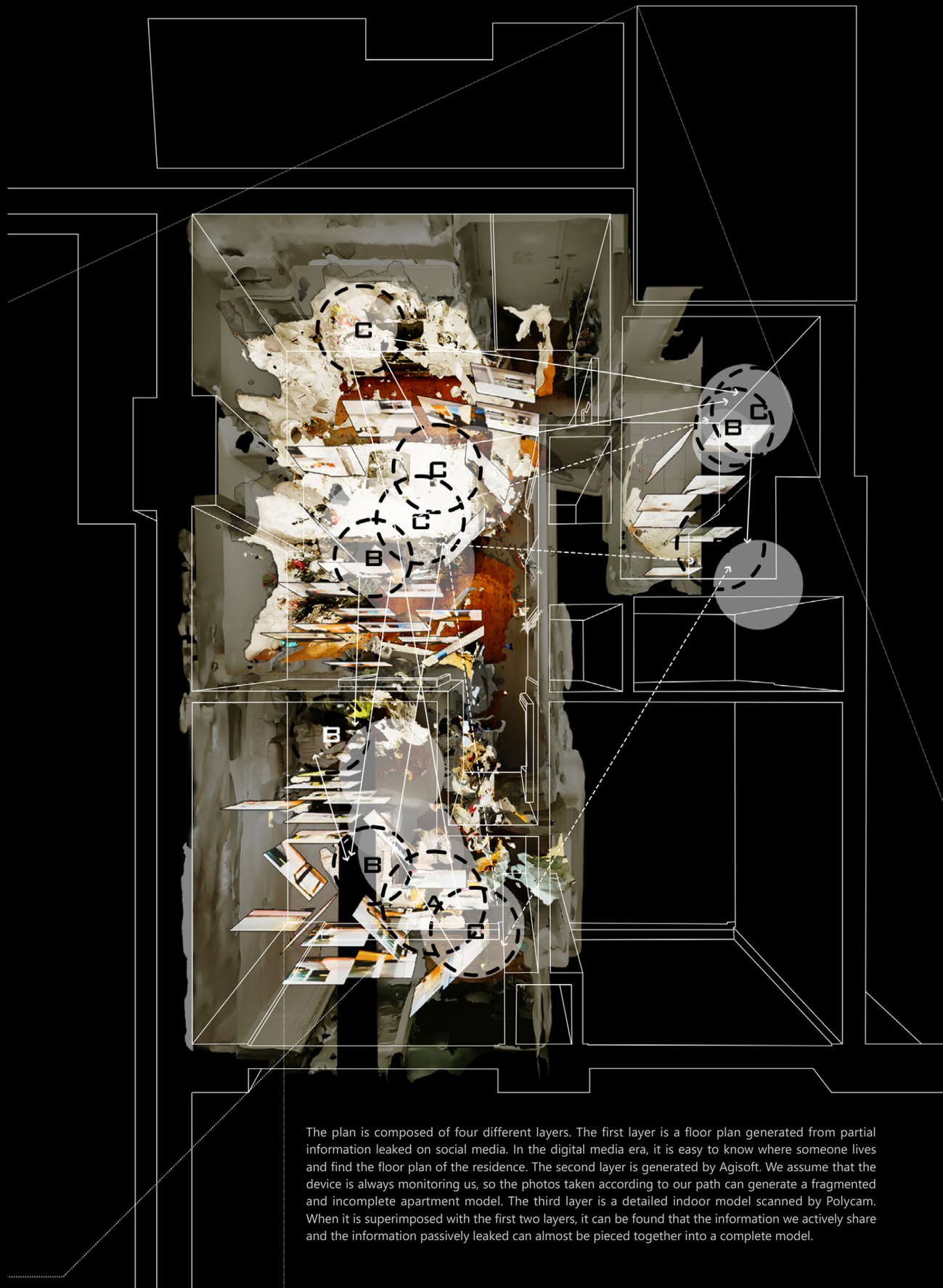
Polycam

By scanning the entire room with Polycam, we can get a very complete model of the room.

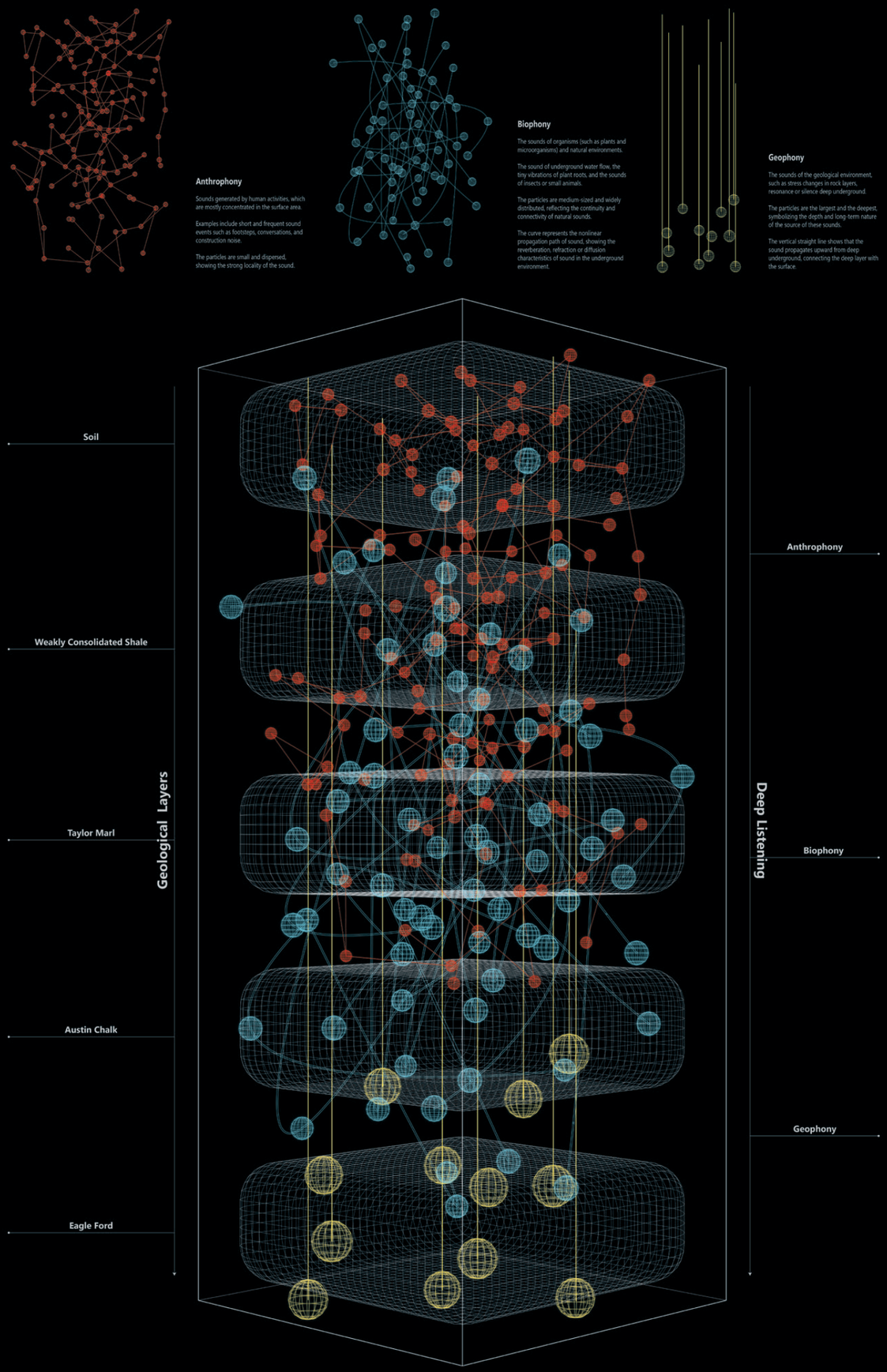


Pictures

our devices will also inadvertently provide some information, such as the room background captured by the laptop during zoom.



The plan is composed of four different layers. The first layer is a floor plan generated from partial information leaked on social media. In the digital media era, it is easy to know where someone lives and find the floor plan of the residence. The second layer is generated by Agisoft. We assume that the device is always monitoring us, so the photos taken according to our path can generate a fragmented and incomplete apartment model. The third layer is a detailed indoor model scanned by Polycam. When it is superimposed with the first two layers, it can be found that the information we actively share and the information passively leaked can almost be pieced together into a complete model.



02

Super Sonic: Texas Listening

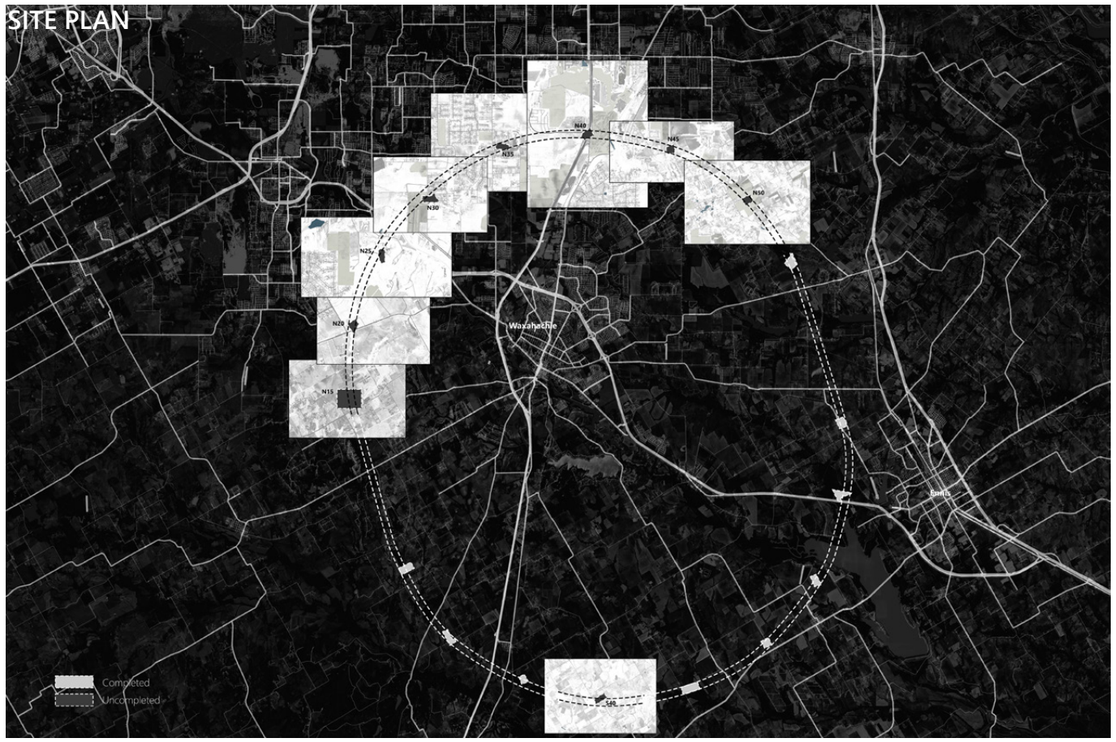
SSC Thought Experiment

Site: Texas, USA
Group Work
Partner: Haoyu Wu, Runhe Song
Fall 2024, Adv Studio V
Instructor: Lindy Roy

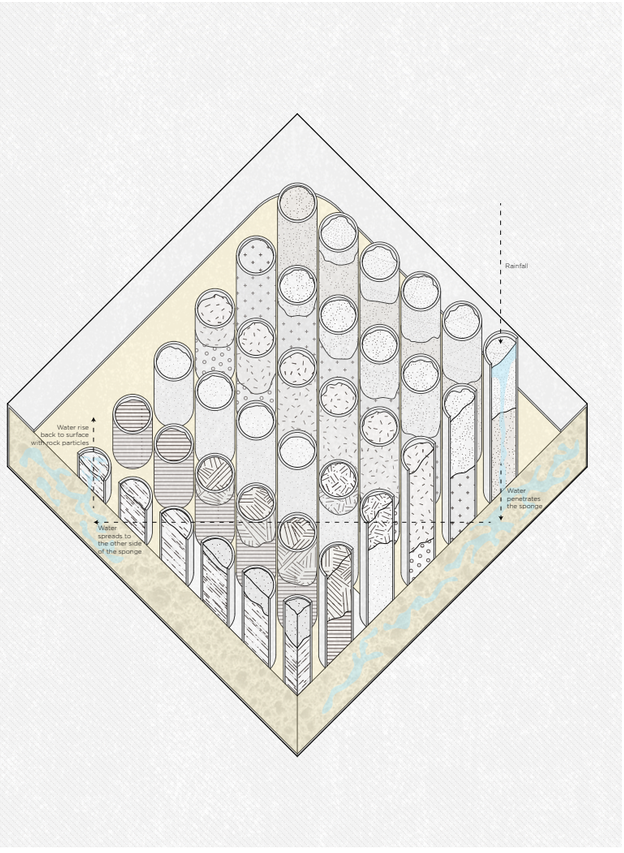
The Superconducting Super Collider (SSC), a monumental yet abandoned scientific endeavor of the industrial age, lies dormant beneath Texas. Its 17 shafts and 14.5-mile tunnel, once intended for particle physics, now stand as relics of human ambition—offering a unique acoustic and sensory infrastructure. This subterranean network, shaped by geophony, biophony, and anthropophony, becomes a canvas for reimagining humanity's relationship with sound, nature, and introspection.

Our project transforms SSC into a Deep Listening sanctuary, where visitors descend through dynamic microclimates to encounter amplified layers of Earth's soundscape. From lively sonic environments to meditative silence, the project harmonizes human interaction with geological and ecological rhythms. Through interactive junctions, immersive concerts, and reflective spaces, it invites a profound reconnection—to oneself, to others, and to the planet's often unheard voices.

SITE PLAN



PROTOTYPE



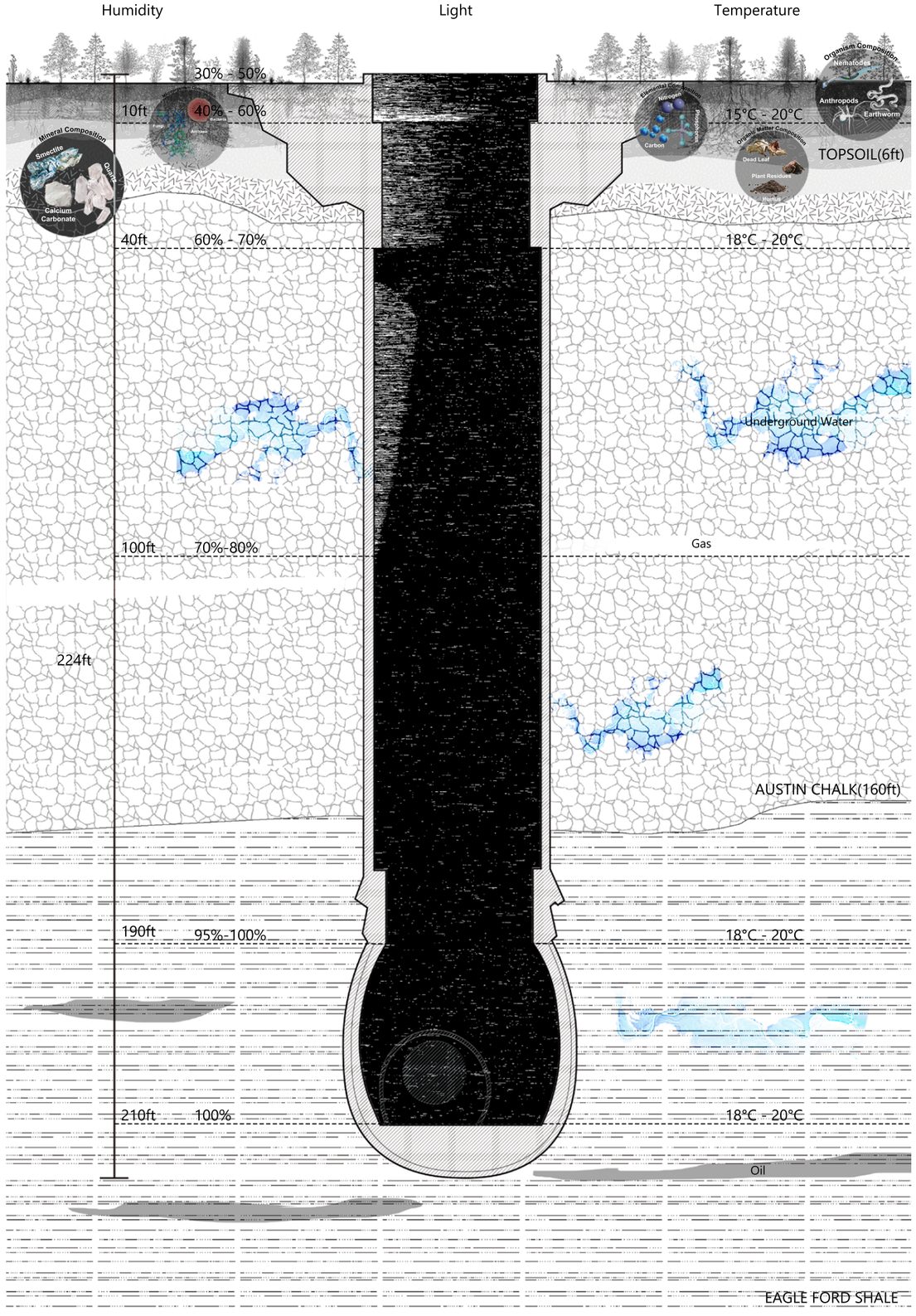
Step 1
Pour water into the soil layer tube to simulate rainwater infiltration into the soil.

Step 2
The water will flow through the tube into the sponge, and the sponge will slowly absorb the water.

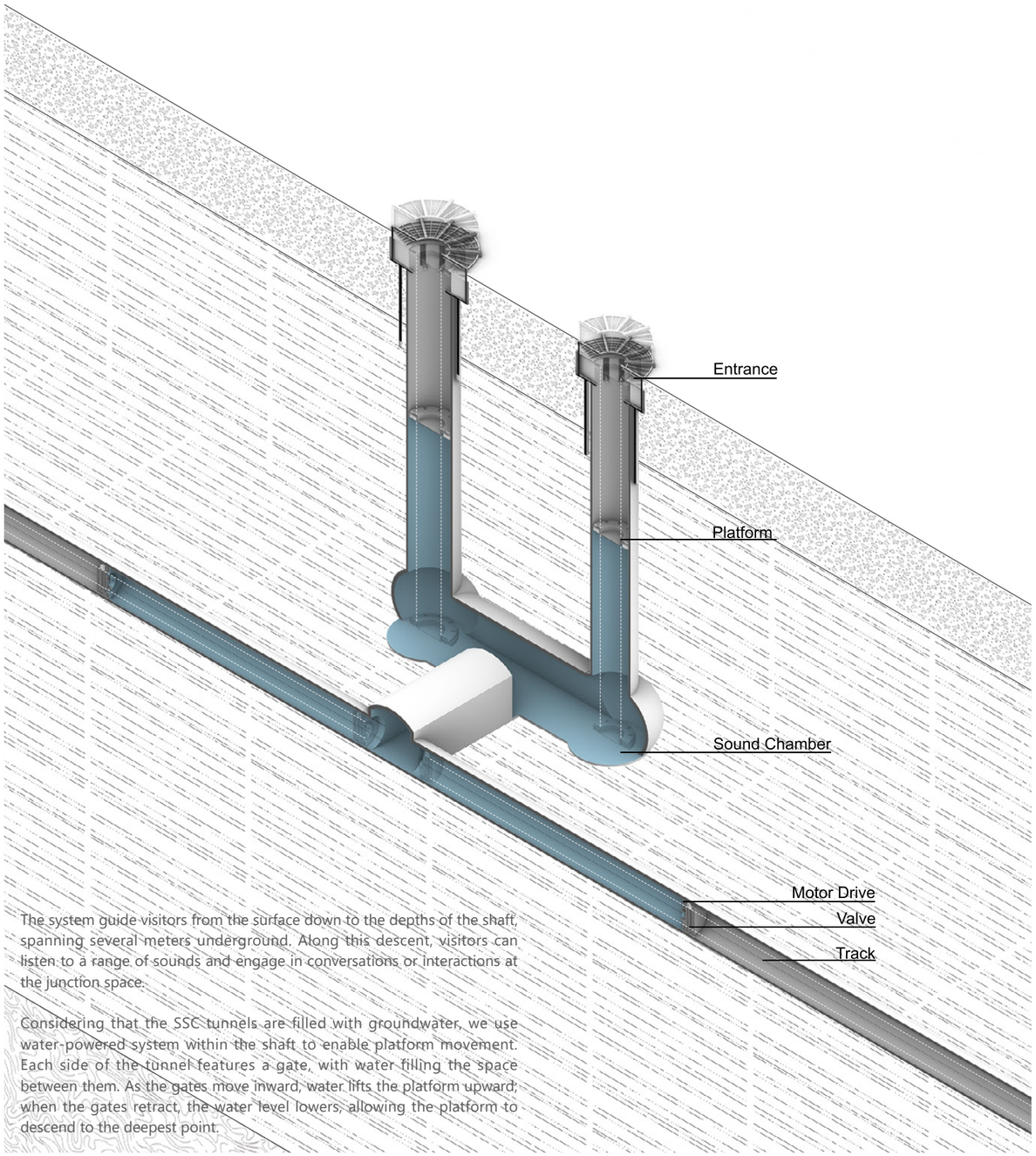
Step 3
When the water content is sufficient, squeeze the sponge to let the water appear.

Step 4
Observe the impact of water on different strata base on the color difference and simulate the impact of geological movements on aquifers.

UNDERGROUND ENVIRONMENT

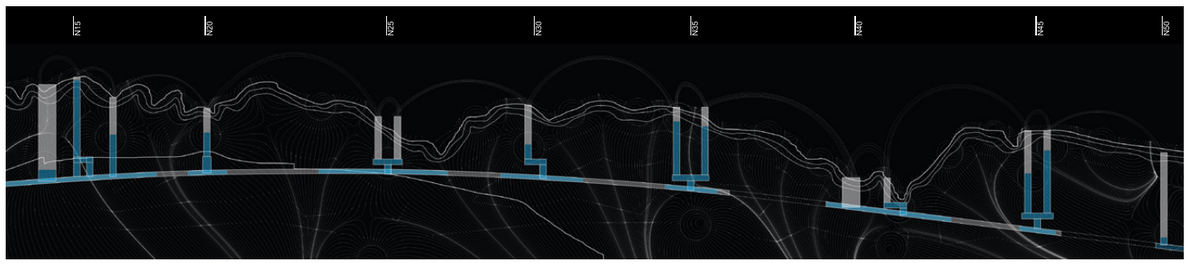


WORKING SYSTEM

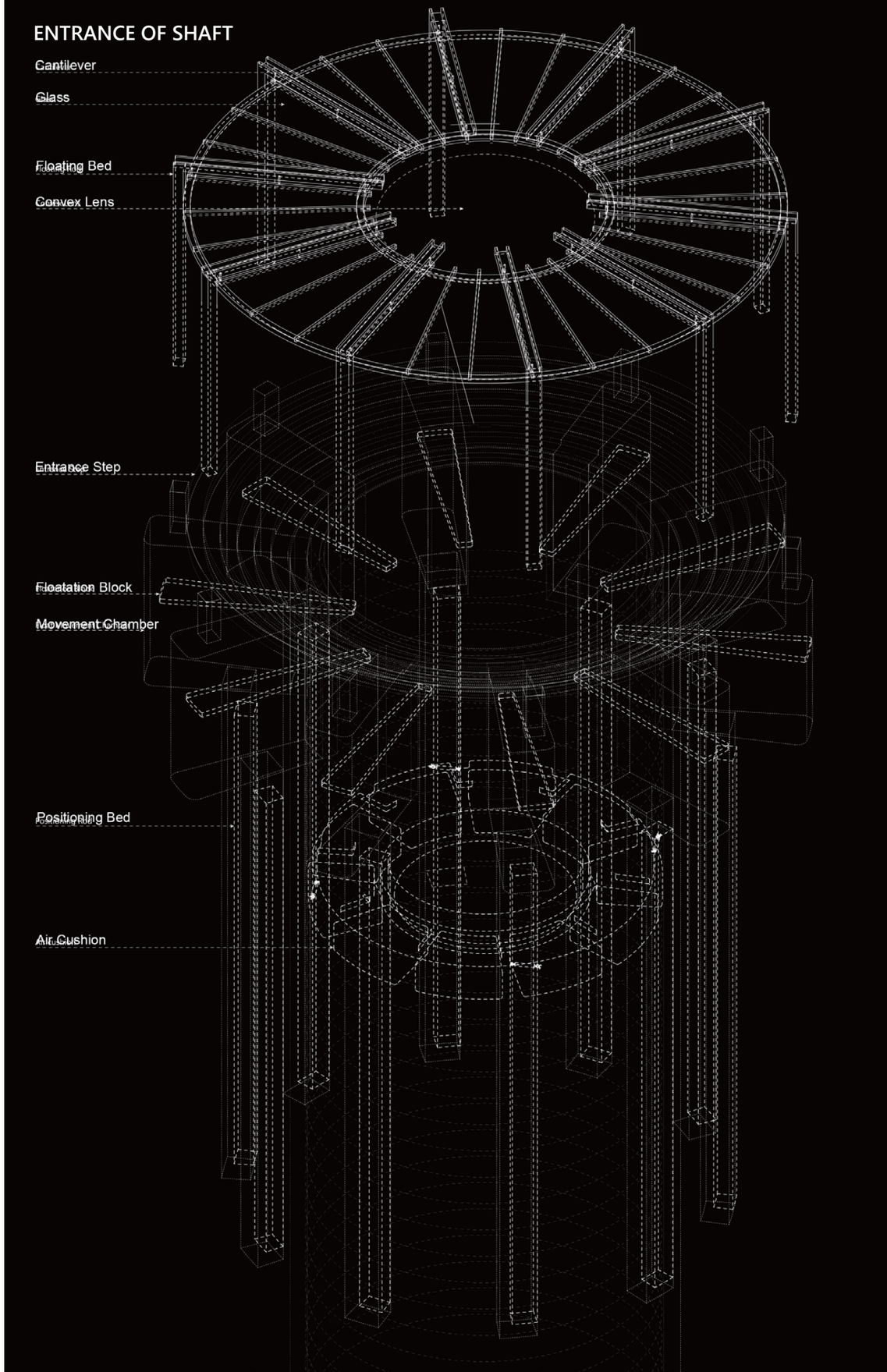


The system guide visitors from the surface down to the depths of the shaft, spanning several meters underground. Along this descent, visitors can listen to a range of sounds and engage in conversations or interactions at the junction space.

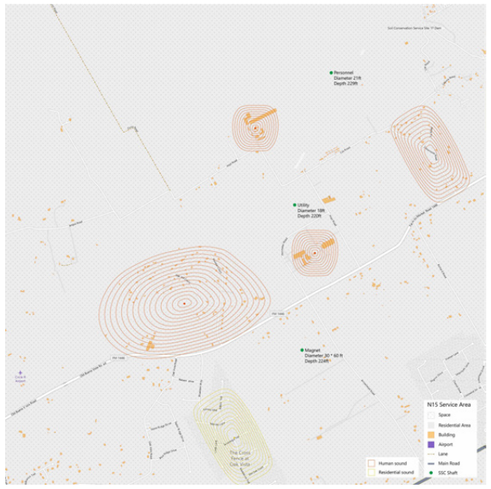
Considering that the SSC tunnels are filled with groundwater, we use water-powered system within the shaft to enable platform movement. Each side of the tunnel features a gate, with water filling the space between them. As the gates move inward, water lifts the platform upward; when the gates retract, the water level lowers, allowing the platform to descend to the deepest point.



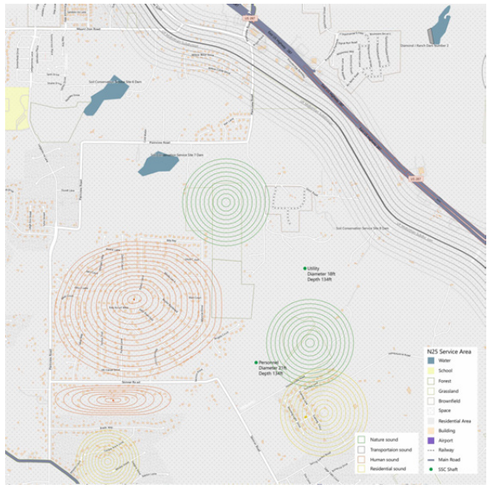
ENTRANCE OF SHAFT



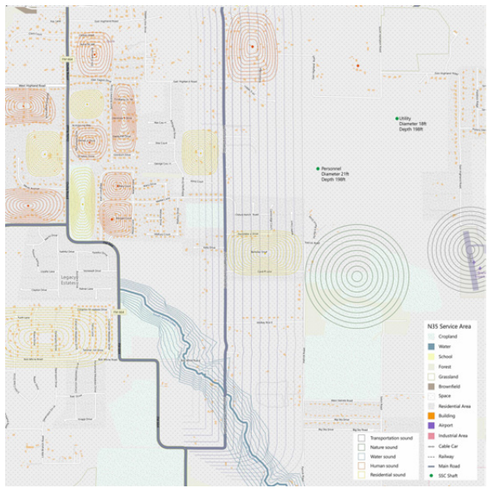
SOUND MAP



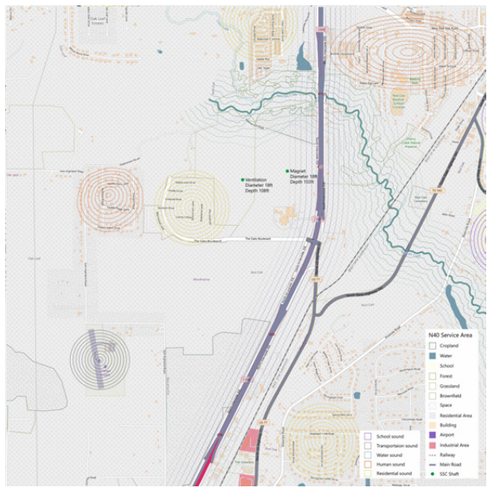
N15 - Utility + Magnet



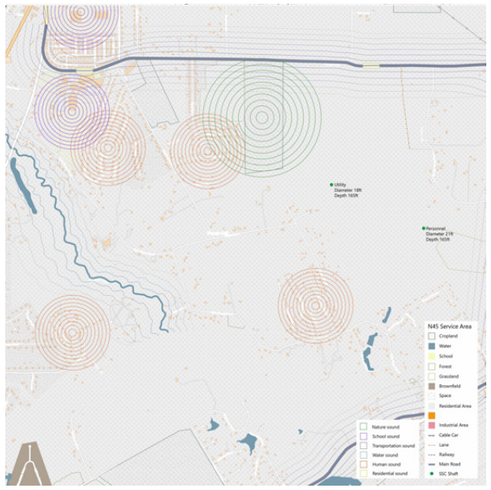
N25 - Utility + Personnel



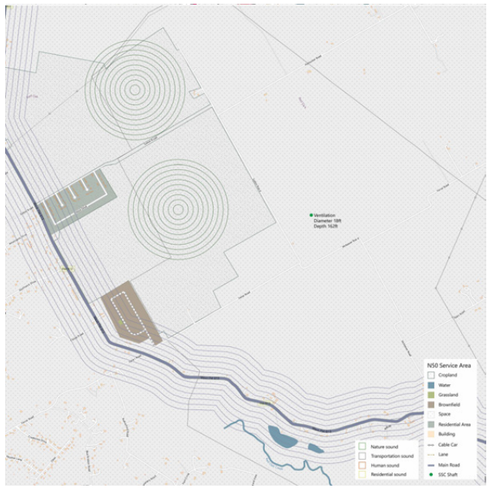
N35 - Utility + Personnel



N40 - Ventilation + Magnet

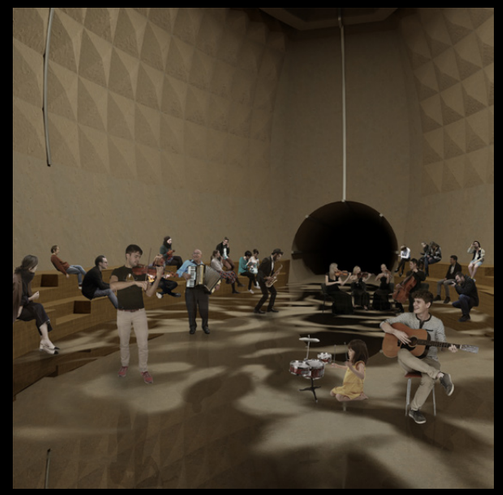


N45 - Utility + Personnel



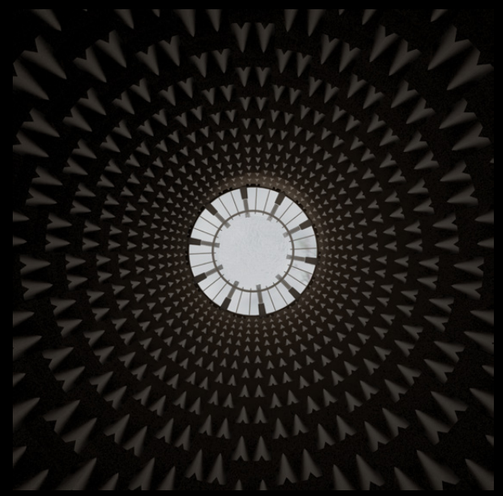
N50 - Ventilation

SOUND CHAMBER

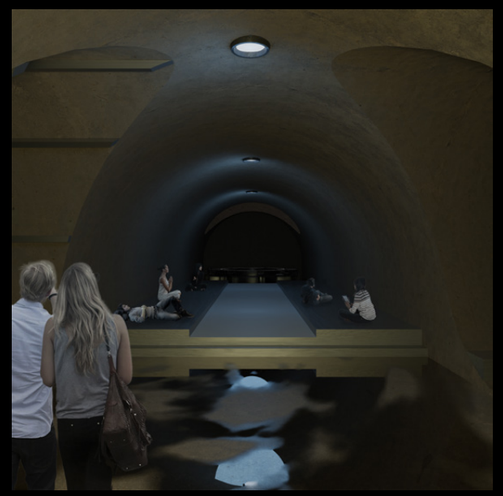


N15 - Concert Chamber

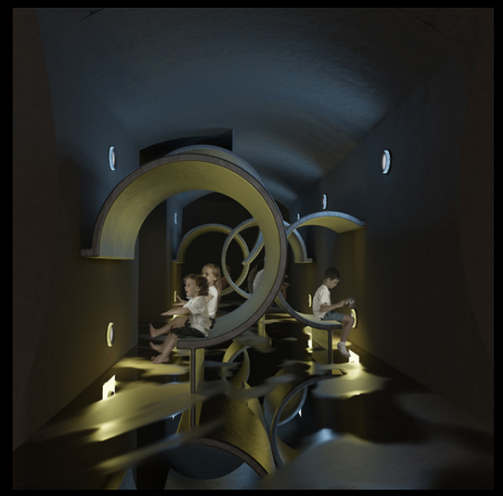
N25 - Acoustic Chamber



N35 - Anechoic Chamber

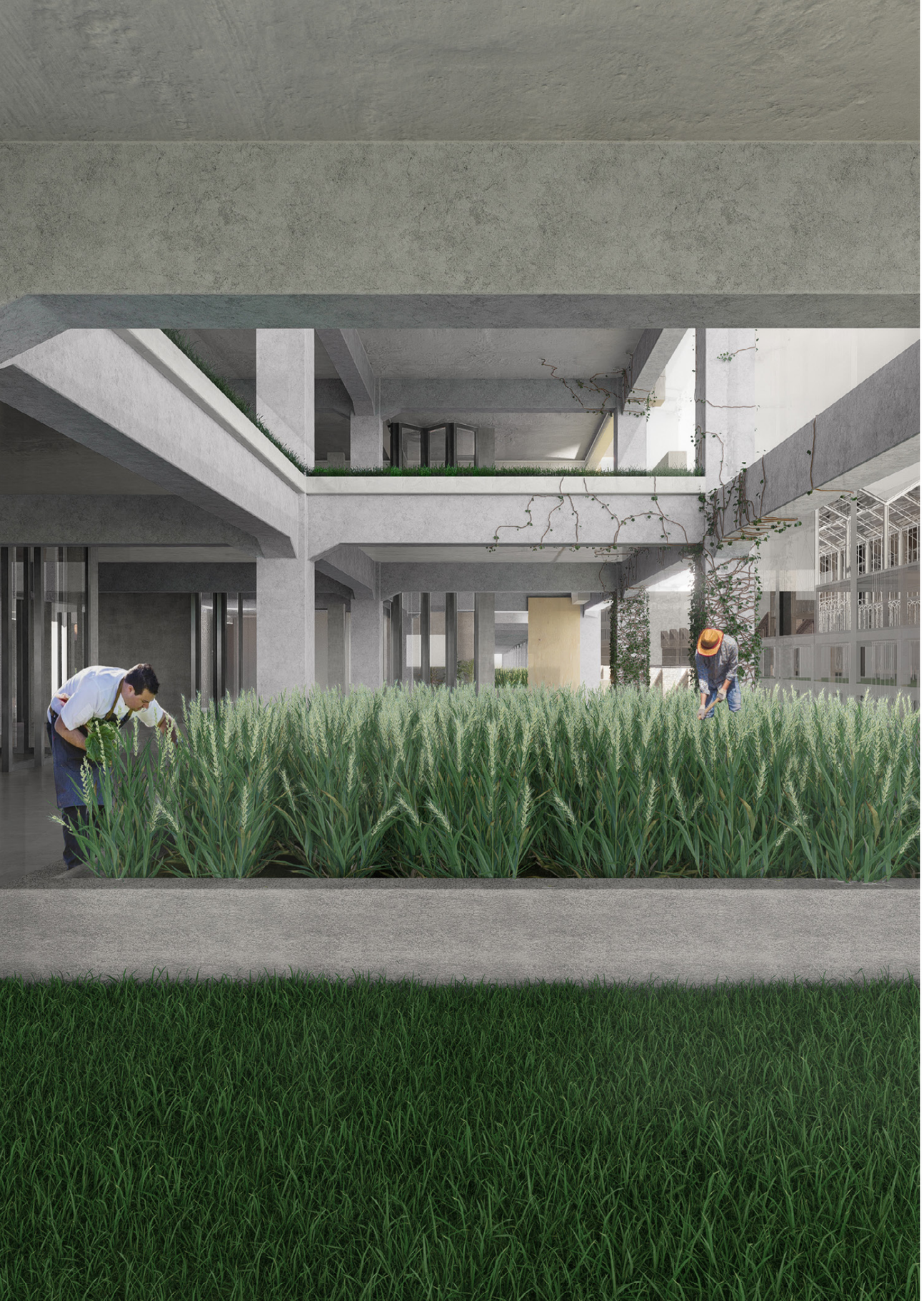


N40 - Meditation Chamber



N45 - Communication

N50 - Water Chamber



03

Parque Recultivo

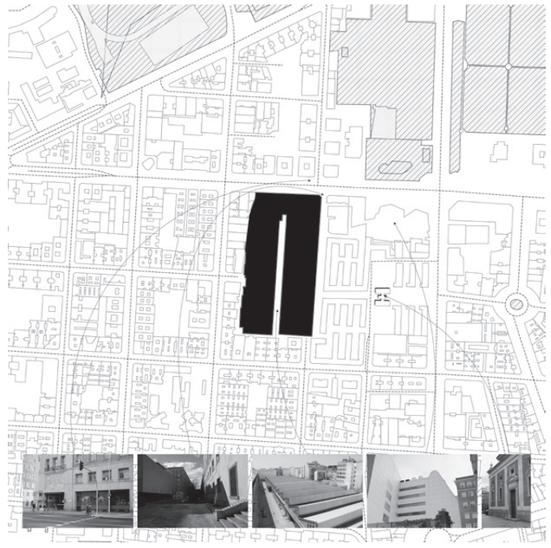
Transformation of Parque Móvil del Estado

Site: Madrid, Spain
Group Work
Partner: Haoyu Wu, Qian Chen
Spring 2025, Adv Studio VI
Instructor: Juan Herreros, Oscar Caballero

Once built to over serve 3,000 cars under the logic of control and circulation, the Parque Móvil del Estado stood as a monument to industrial order and the authoritarian state. Today, those same "bones" become the foundation for something radically different: an open, adaptive, and living environment. Instead of erasing the past, the project chooses to keep, remove, and add - preserving the structural integrity, removing barriers to light and air, and introducing new layers of agricultural production, housing, and communal life.

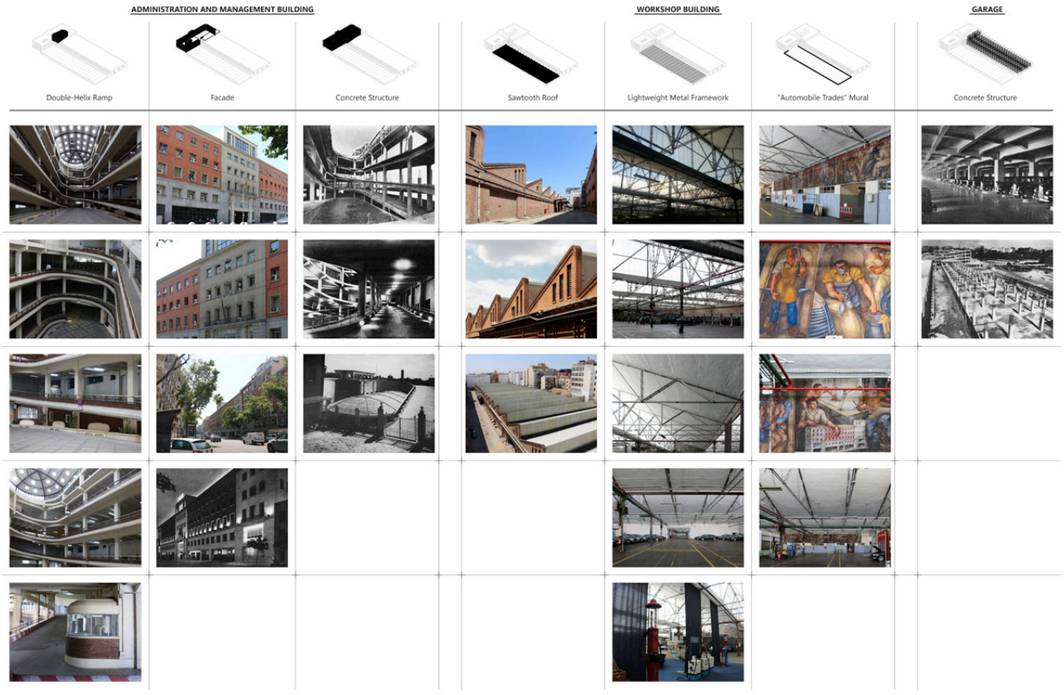
This is no longer a site of storage - it is a site of cultivation. A new ecosystem where food, people, and infrastructure coexist, where the industrial past becomes soil for ecological and social futures.

SITE ANALYSIS

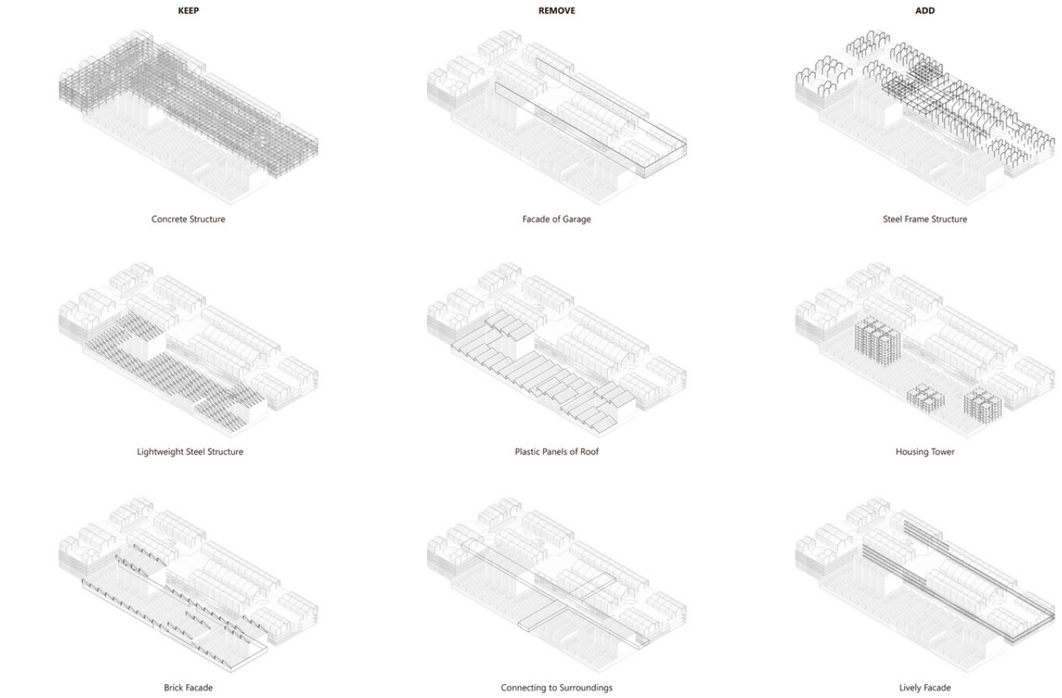


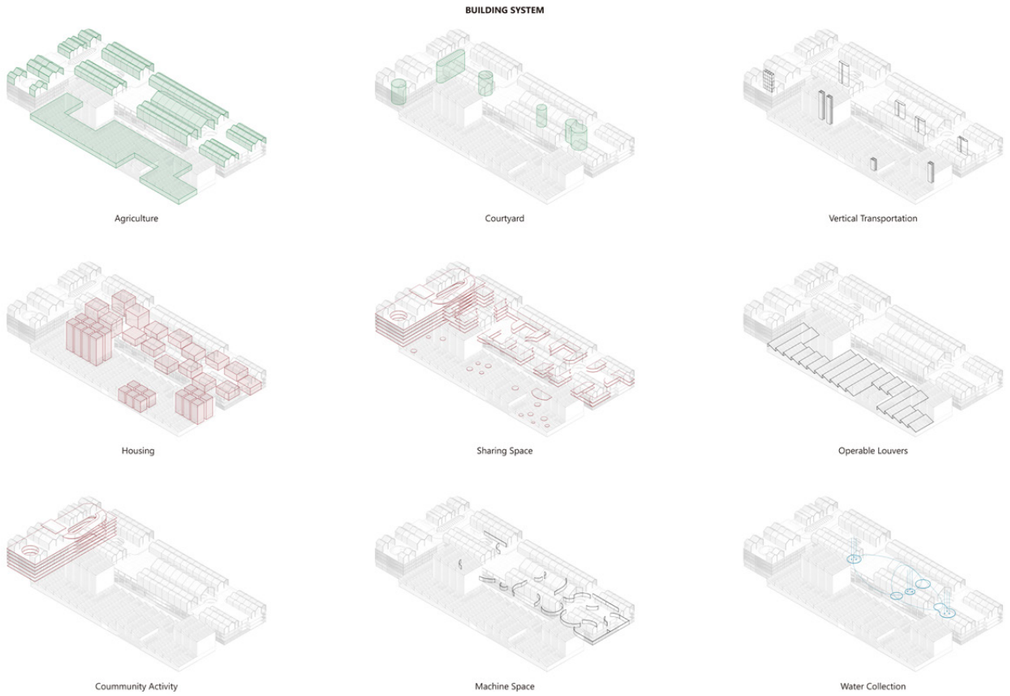
Parque Móvil is located in a dense urban environment, surrounded by residential buildings. It can be divided into three volumes. These three parts have completely different structures: the administration and management building features a massive double-helix ramp, the workshop has a lightweight steel framework, and the garage utilizes a traditional reinforced concrete structure.

ORIGINAL BUILDING



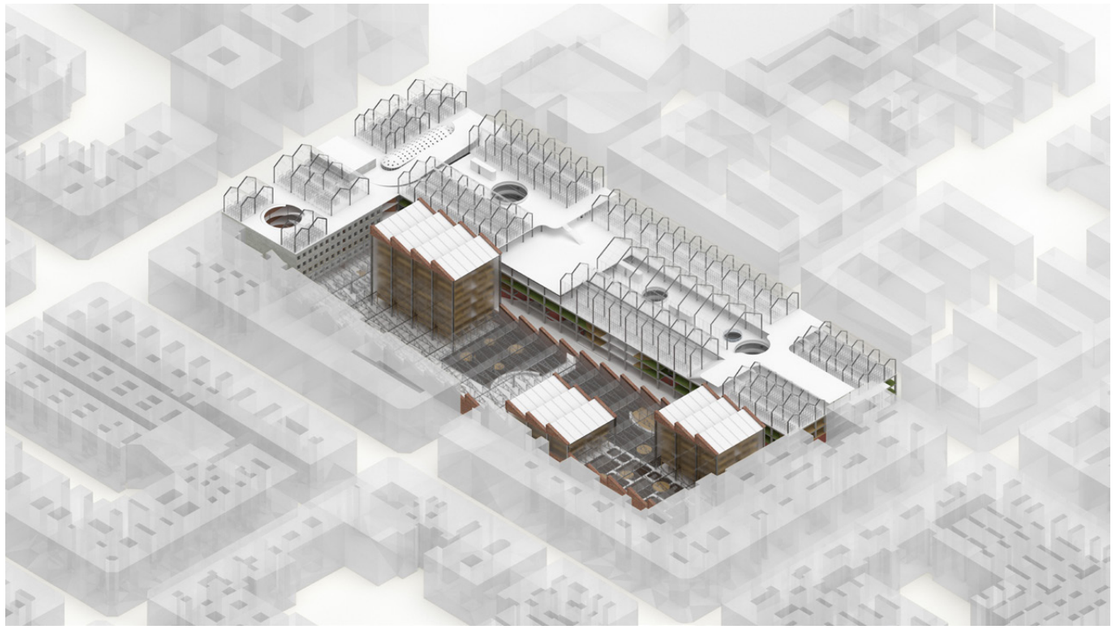
TRANSFORMATION STRATEGY

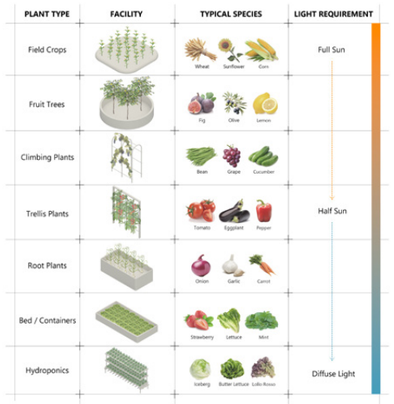




FIRST FLOOR PLAN

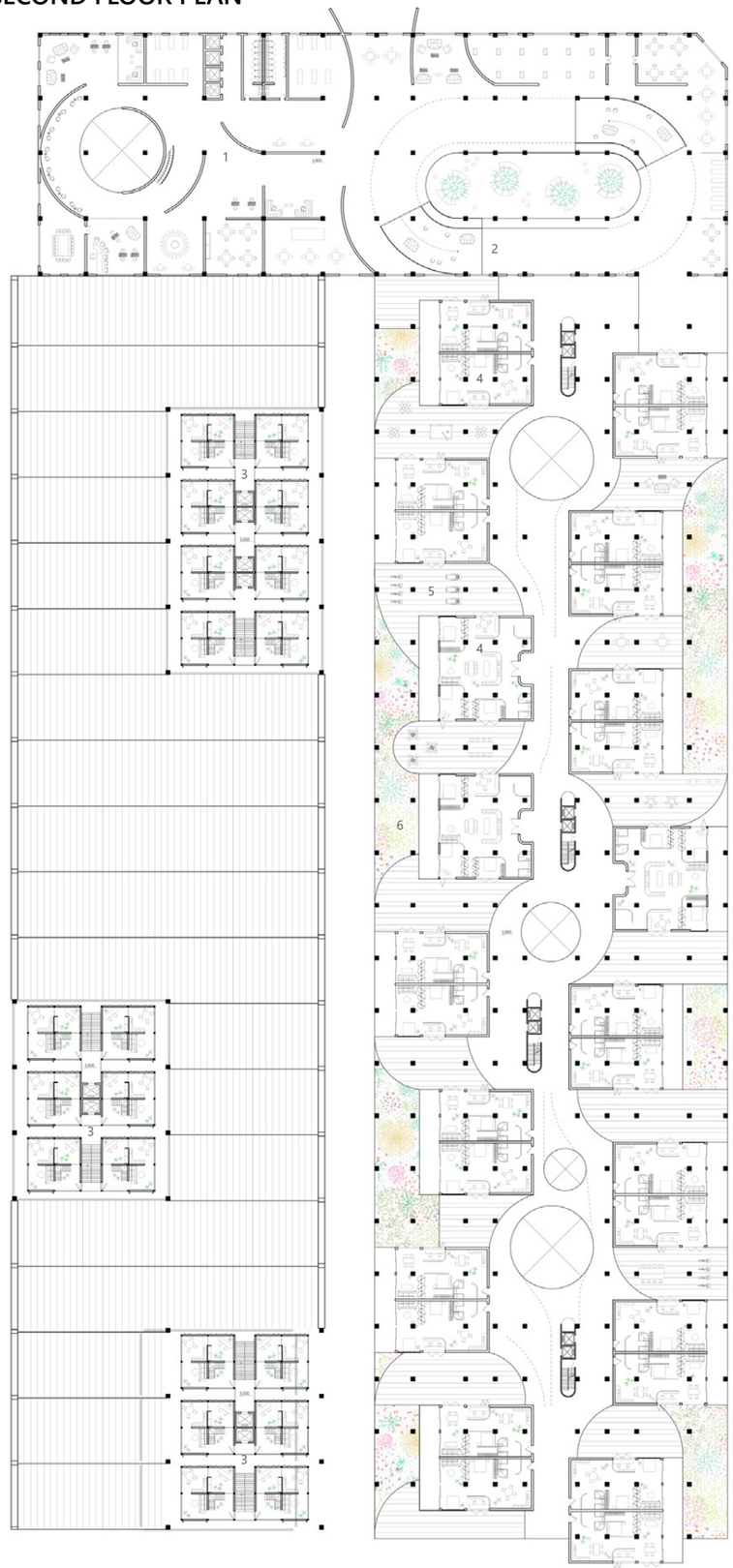
1. Community Center
2. Double-Helix Ramp
3. Agriculture
4. Shared Space
5. Storage
6. Machine Space
7. Water Collection
8. Planting Space





SECTION (WORKSHOP + GARAGE)

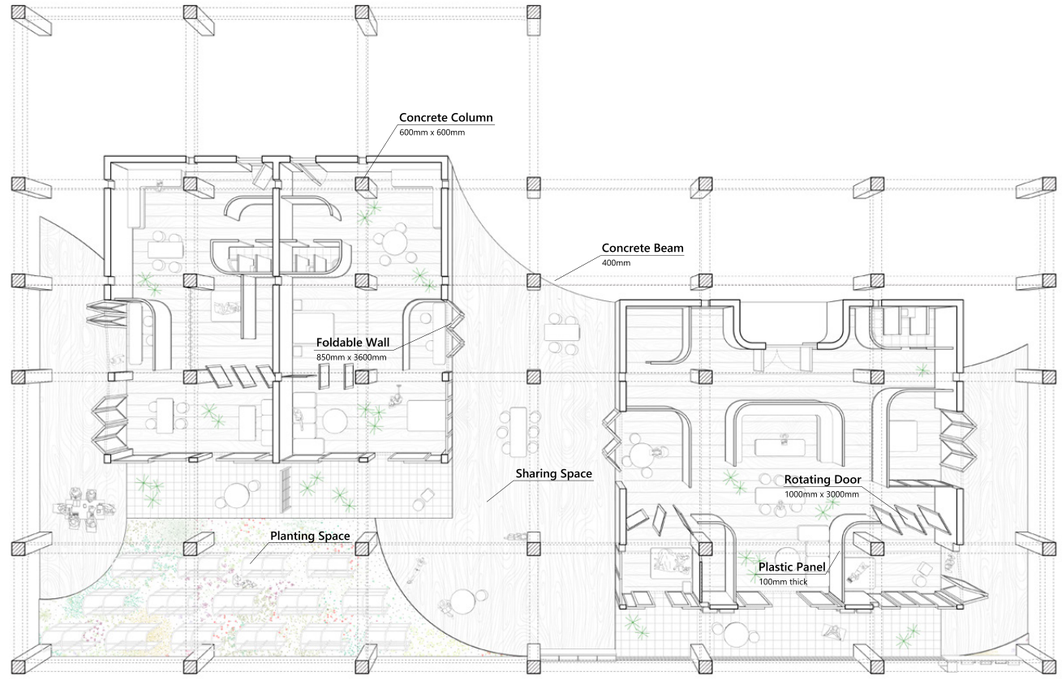
SECOND FLOOR PLAN



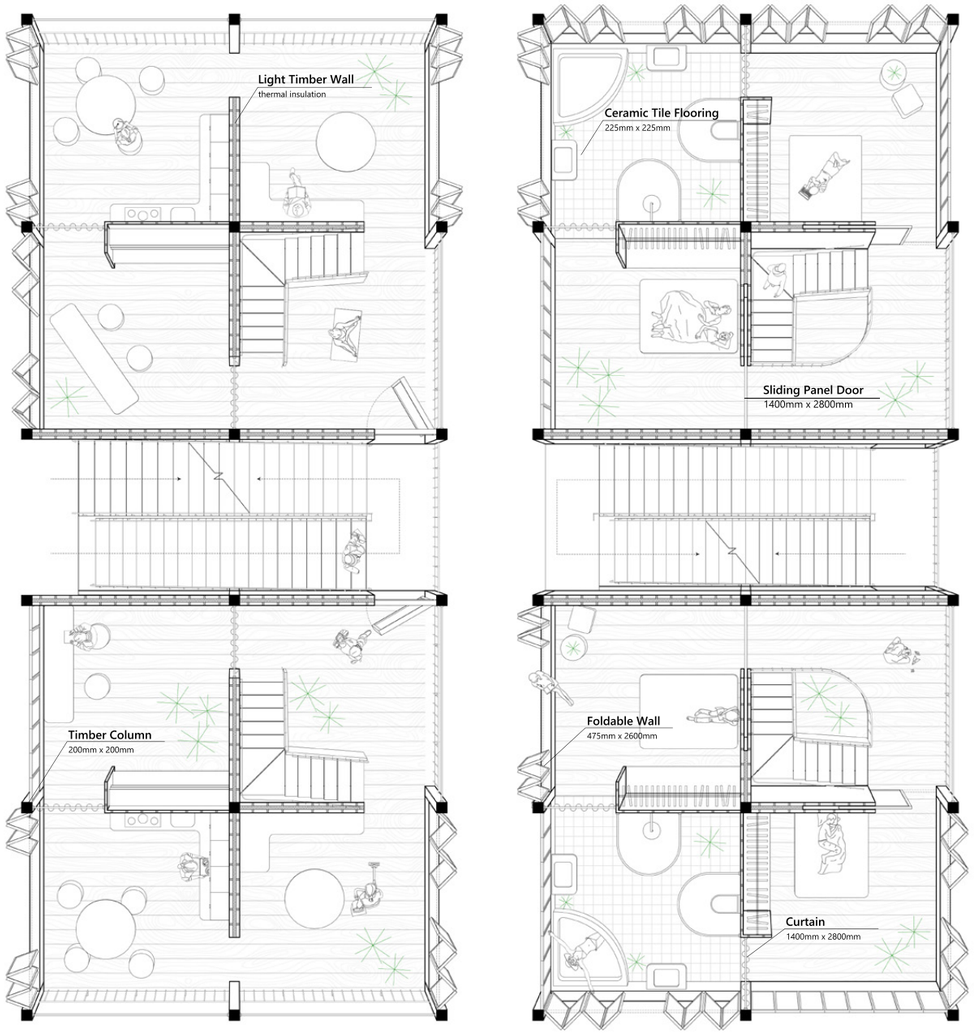
0 8 16 24M

1. Community Center
2. Double-Helix Ramp
3. Unit of Workshop
4. Unit of Garage
5. Shared Space
6. Planting Space

UNIT OF GARAGE

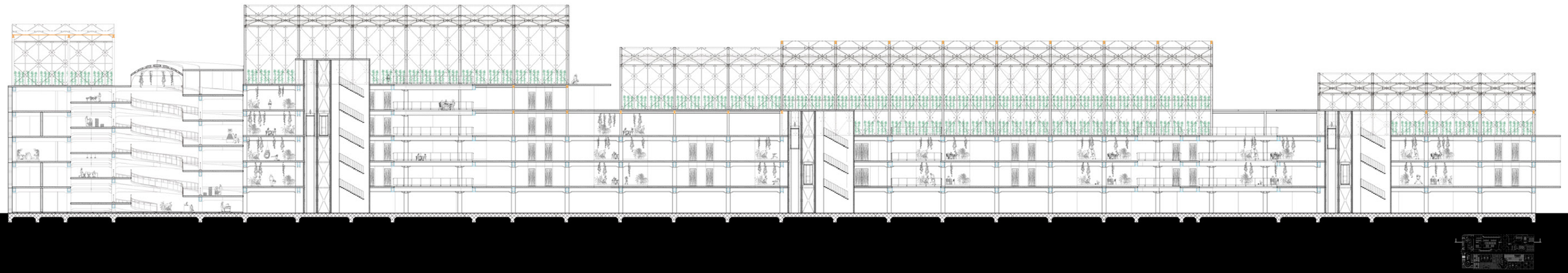


UNIT OF WORKSHOP



The living units are added inside the original structure like a “building in building.” Each unit has two floors and is built with simple columns and cross walls. Inside, the space is divided by curtains and many foldable windows to create a flexible and open living area. The units provide basic housing needs but also allow people to shape the space based on their lifestyle.

SECTION (ADMINISTRATION + GARAGE)



04

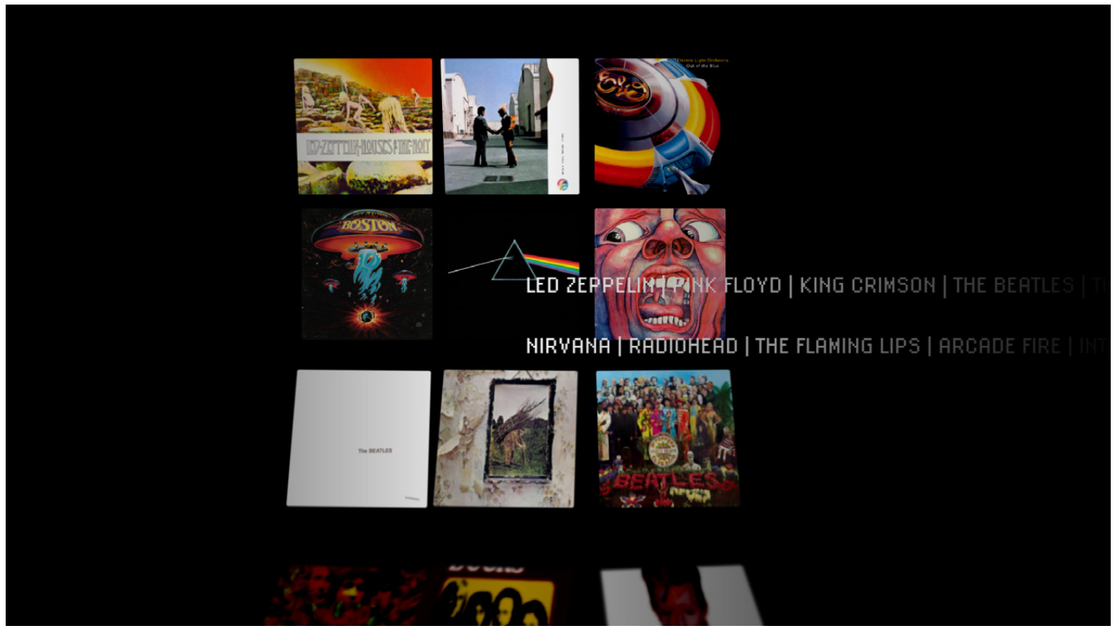
Web Design

Coding For Spacial Practices

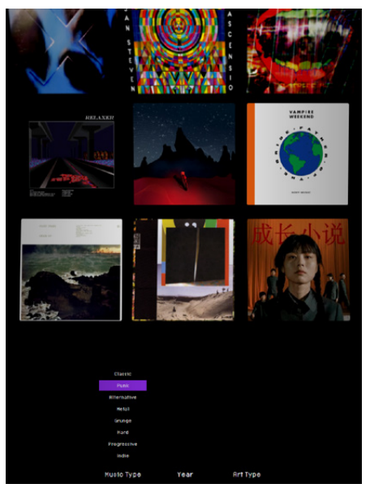
Individual Work
Fall 2024
Elective Course
Instructor: Celeste Layne

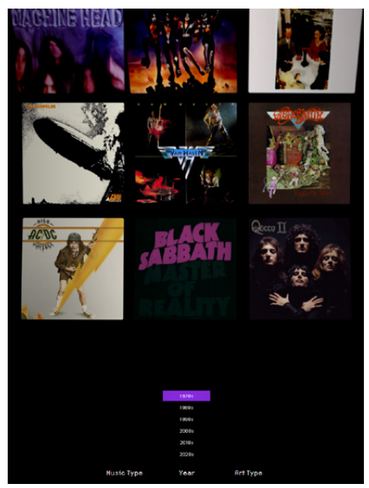
100 ROCK ALBUM COVERS

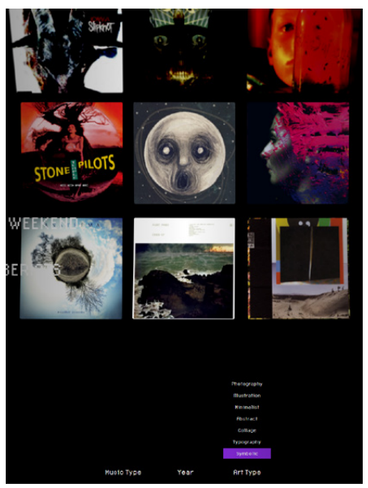
Long before the digital age and the emergence of contemporary design disciplines, there existed a unique canvas that captivated millions of visual audiences: the album cover. Cover design is an essential part of a music album, with powerful cultural impact and truly global influence. It provides designers with a canvas through which they can express their creativity and originality to the world and is considered one of the most effective marketing tools.



CATEGORIES







ROOT HTML

```html
<!DOCTYPE html>
<html lang="en" class="no-js">

<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>ROCK ALBUM COVER | GSAPP 2024 CODING</title>
  <meta name="author" content="Codrops" />
  <!-- <link rel="shortcut icon" href="favicon.ico"> -->
  <link rel="stylesheet" href="https://use.typekit.net/pxn8wdc.css">
  <link rel="stylesheet" type="text/css" href="css/base.css" />
  <script>document.documentElement.className = "js";</script>
  <!-- <script src="//tympanus.net/codrops/adpacks/analytics.js"></script> -->
  <link rel="stylesheet" href="./css/index.css">
</head>

<body class="loading">
  <main class="shadow">
    <!-- <div class="frame">
      <a class="frame__back" href="https://tympanus.net/codrops/?p=81462">Article</a>
      <a class="frame__archive" href="https://tympanus.net/codrops/demos">All demos</a>
      <a class="frame__github" href="https://github.com/codrops/Staggered3DGridAnimations">GitHub</a>
    </div>
    <div class="intro">
      <h1 class="intro__title font-alt">Staggered (3D) <br>Grid Animations</h1>
      <nav class="tags">
        <a href="https://tympanus.net/codrops/demos/?tag=scroll">#scroll</a>
        <a href="https://tympanus.net/codrops/demos/?tag=3d">#3d</a>
        <a href="https://tympanus.net/codrops/demos/?tag=grid">#grid</a>
      </nav>
      <span class="intro__info">Scroll gently &amp; enjoy</span>
    </div> -->
    <section>
      <div class="grid"></div><!-- grid -->

      <div class="btnBox">
        <!-- <div class="cardItemBtn">
          <span class="btn__text">Load More</span>
          <div class="mask">
            <button>类型1</button>
            <button>类型2</button>
            <button>类型3</button>
          </div>
        </div> -->
```

JAVA SCRIPT

```javascript
// import { preloadImages } from './utils.js'; // Import utility function to preload images
const preloadImages = (selector = 'img') => {
  return new Promise((resolve) => {
      // The imagesLoaded library is used to ensure all images (including backgrounds) are fully loaded.
      imagesLoaded(document.querySelectorAll(selector), {background: true}, resolve);
  });
};

gsap.registerPlugin(ScrollTrigger); // Register GSAP's ScrollTrigger plugin
gsap.registerPlugin(SplitText);     // Register GSAP's SplitText plugin

const grid = document.querySelector('.grid'); // Select the container that holds all grid items
const gridImages = grid.querySelectorAll('.grid__item-imgwrap'); // Select all elements with the class '.grid__item-imgwrap'

const marqueeInner = document.querySelector('.mark > .mark__inner'); // Select the inner element of the marquee

const textElement = document.querySelector('.text'); // Select the text element
var splitTextEl = new SplitText(textElement, {type: 'chars'}); // Split the text into individual characters for animation

const gridFull = document.querySelector('.grid--full'); // Select the full grid container

const creditsTexts = document.querySelectorAll('.credits'); // Select all elements with the class '.credits'

// Helper function to determine if the element is on the left or right side of the viewport
const isLeftSide = (element) => {
  const elementCenter = element.getBoundingClientRect().left + element.offsetWidth / 2; // Calculate the center of the element
  const viewportCenter = window.innerWidth / 2; // Calculate the center of the viewport
  return elementCenter < viewportCenter; // Return true if the element's center is to the left of the viewport's center
};

// Function to animate the grid items as they scroll into and out of view
const animateScrollGrid = () => {
  gridImages.forEach(imageWrap => {
    const imgEl = imageWrap.querySelector('.grid__item-img'); // Select the image element inside the grid item
    const leftSide = isLeftSide(imageWrap); // Check if the element is on the left side of the viewport

    // Create a GSAP timeline with ScrollTrigger for each grid item
    gsap.timeline({
      scrollTrigger: {
        trigger: imageWrap,              // Trigger the animation when this element enters the viewport
        start: 'top bottom+=10%',        // Start when the top of the element is 10% past the bottom of the viewport
        end: 'bottom top-=25%',          // End when the bottom of the element is 25% past the top of the viewport
        scrub: true,                     // Smooth scrub animation
      }
```

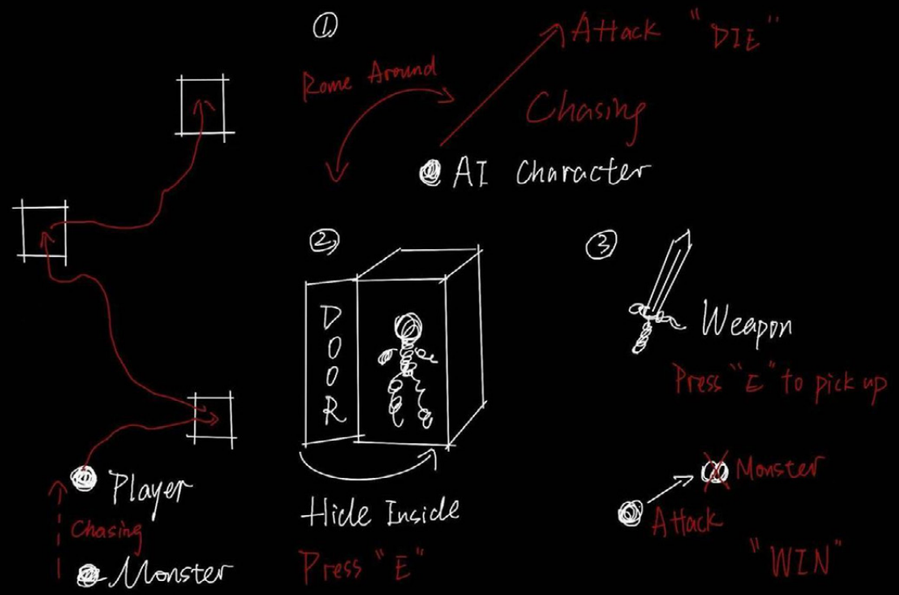
05

Escape From Dream

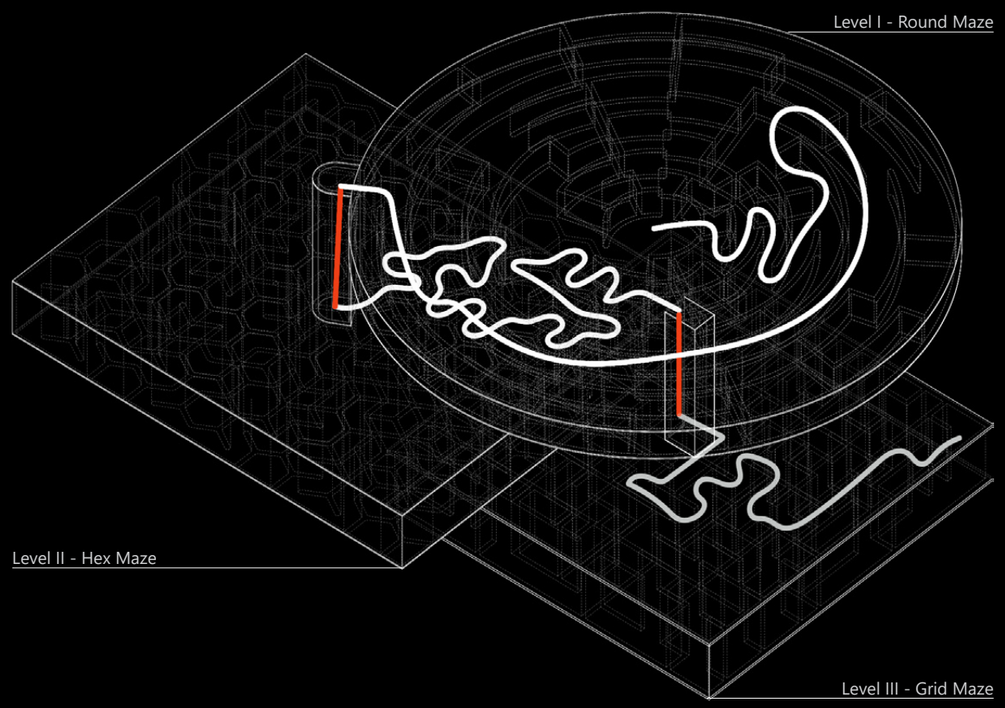
Virtual Architecture

Group Work
Partner: Haoyu Wu
Spring 2025
Elective Course
Instructor: Nitzan Bartov

SKETCH PROPOSAL

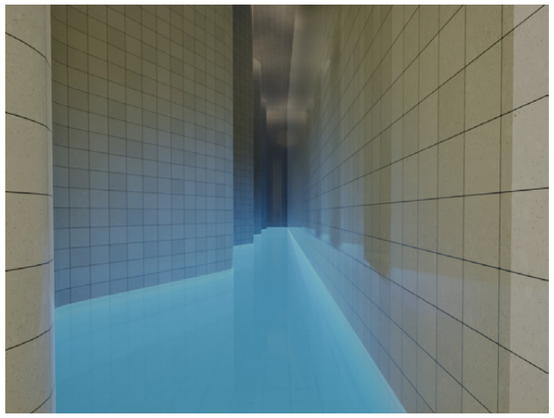


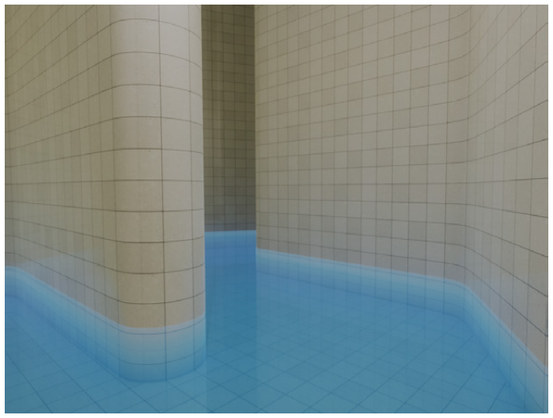
LEVEL DESIGN



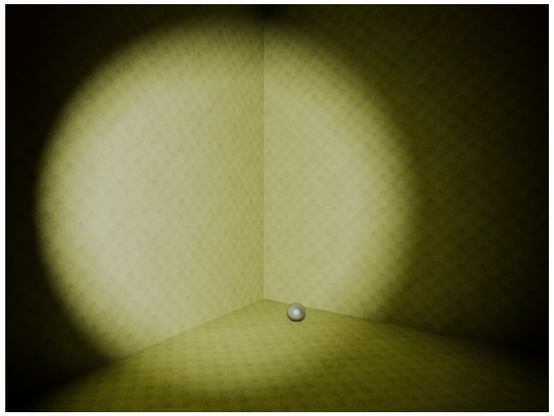
The first level presents a tense, horror-like atmosphere. Three AI enemies actively pursue the player, who must hide and carefully navigate to find the correct path to the next layer.

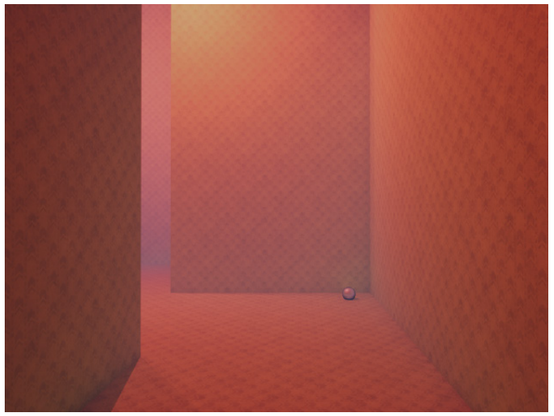
The second level is calm and introspective, reflecting a moment of self-exploration. There are no monsters here, and although the path is winding, it has no forks or dead ends.





The third level introduces a turning point - players gain access to a weapon capable of defeating the AI. This shift in power allows for confrontation rather than avoidance.

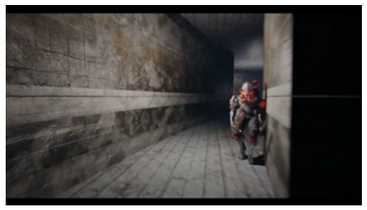


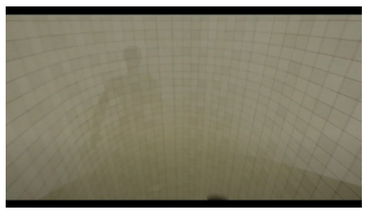


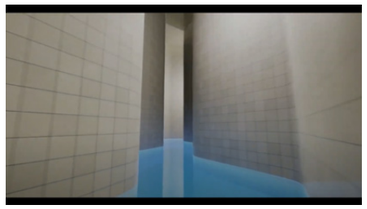
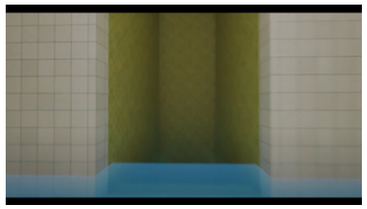
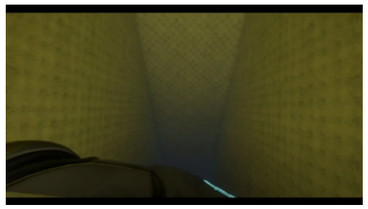
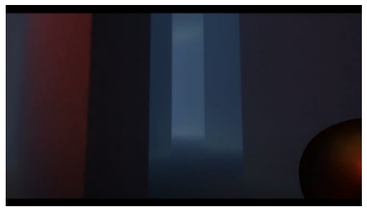
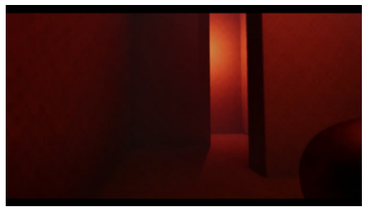
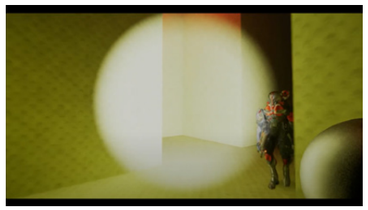
The journey through these levels resembles a gradual awakening from a dream: from fear and disorientation, through reflection, to eventual clarity and control.



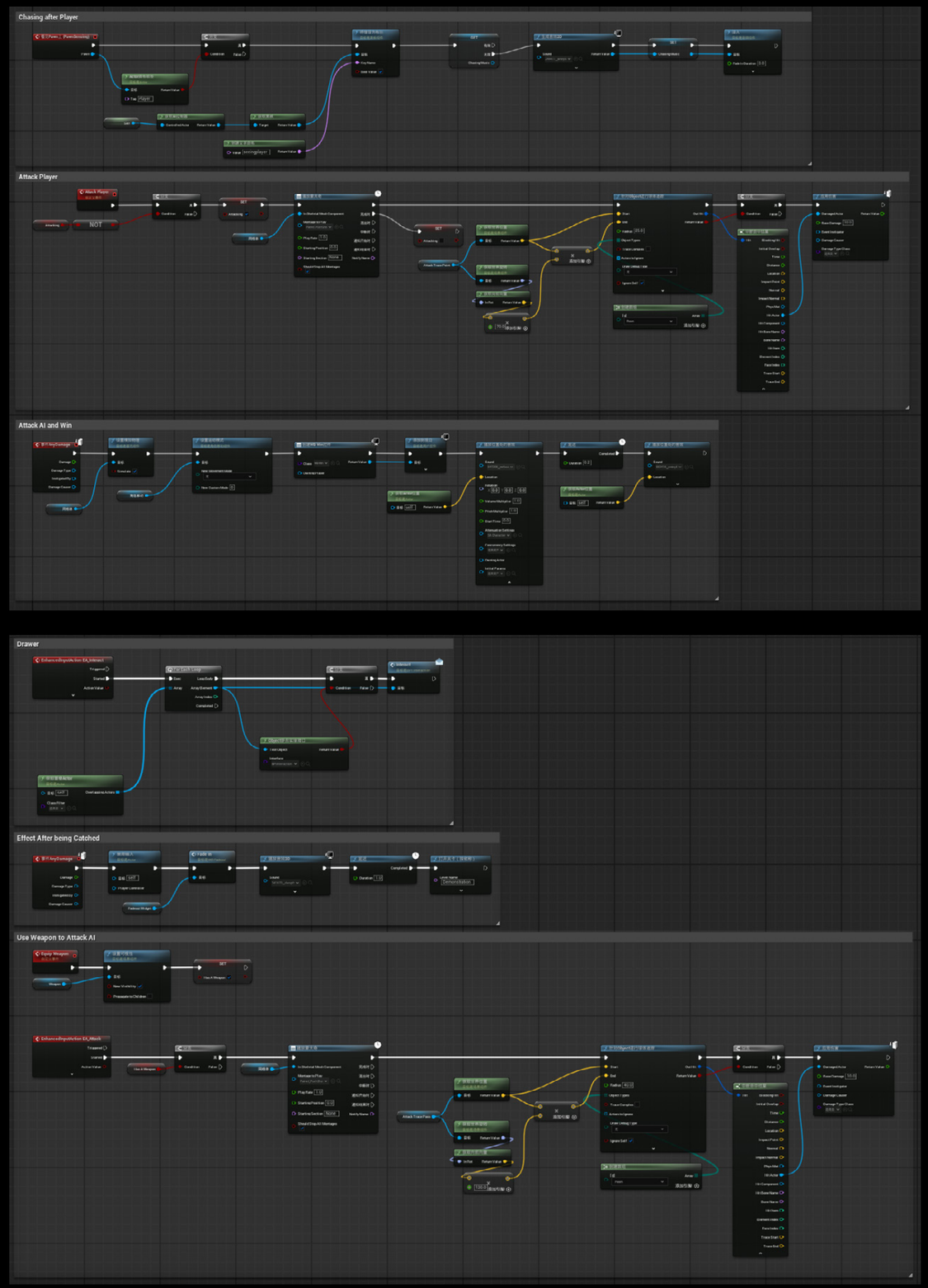






BLUEPRINT PROGRESS

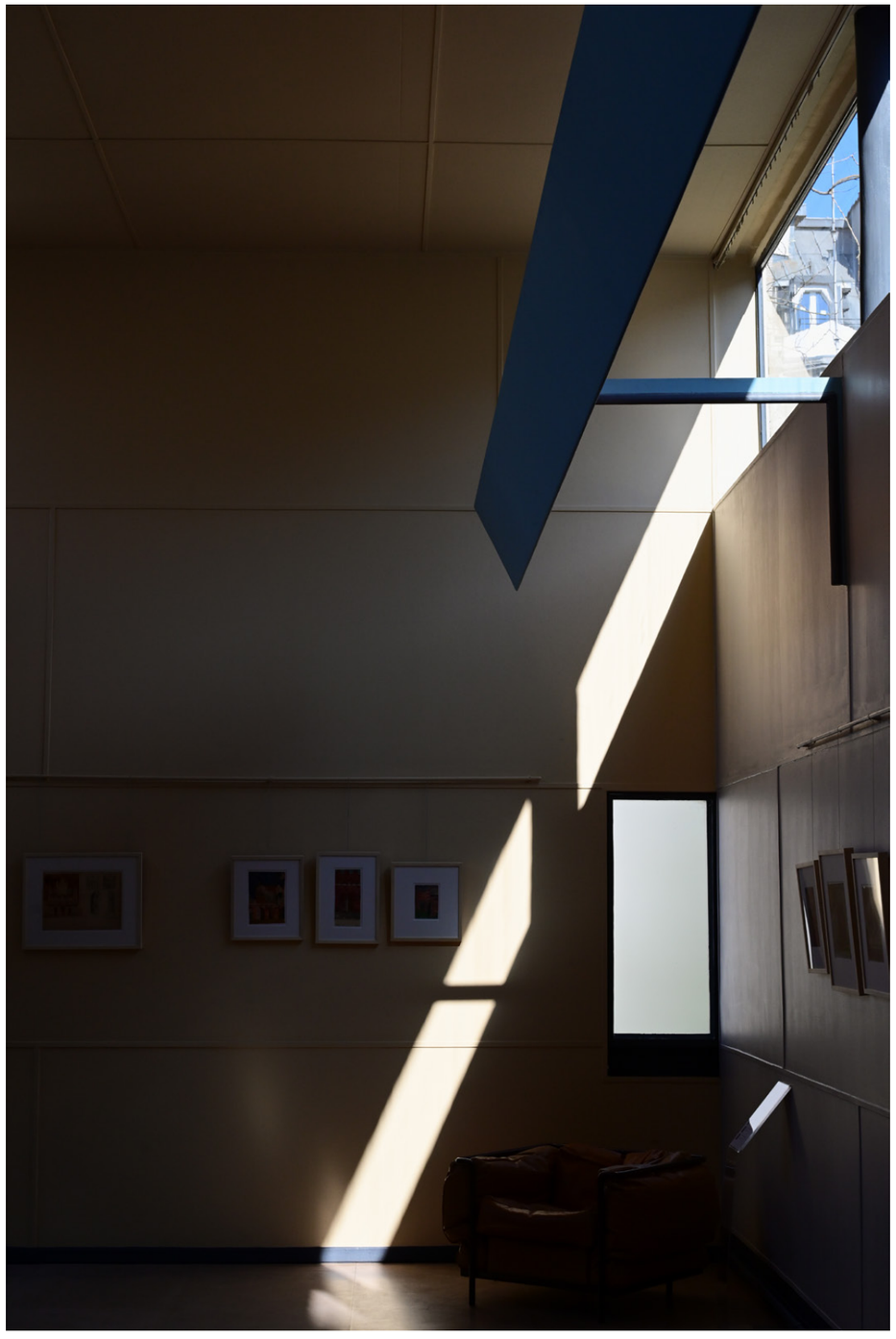


06

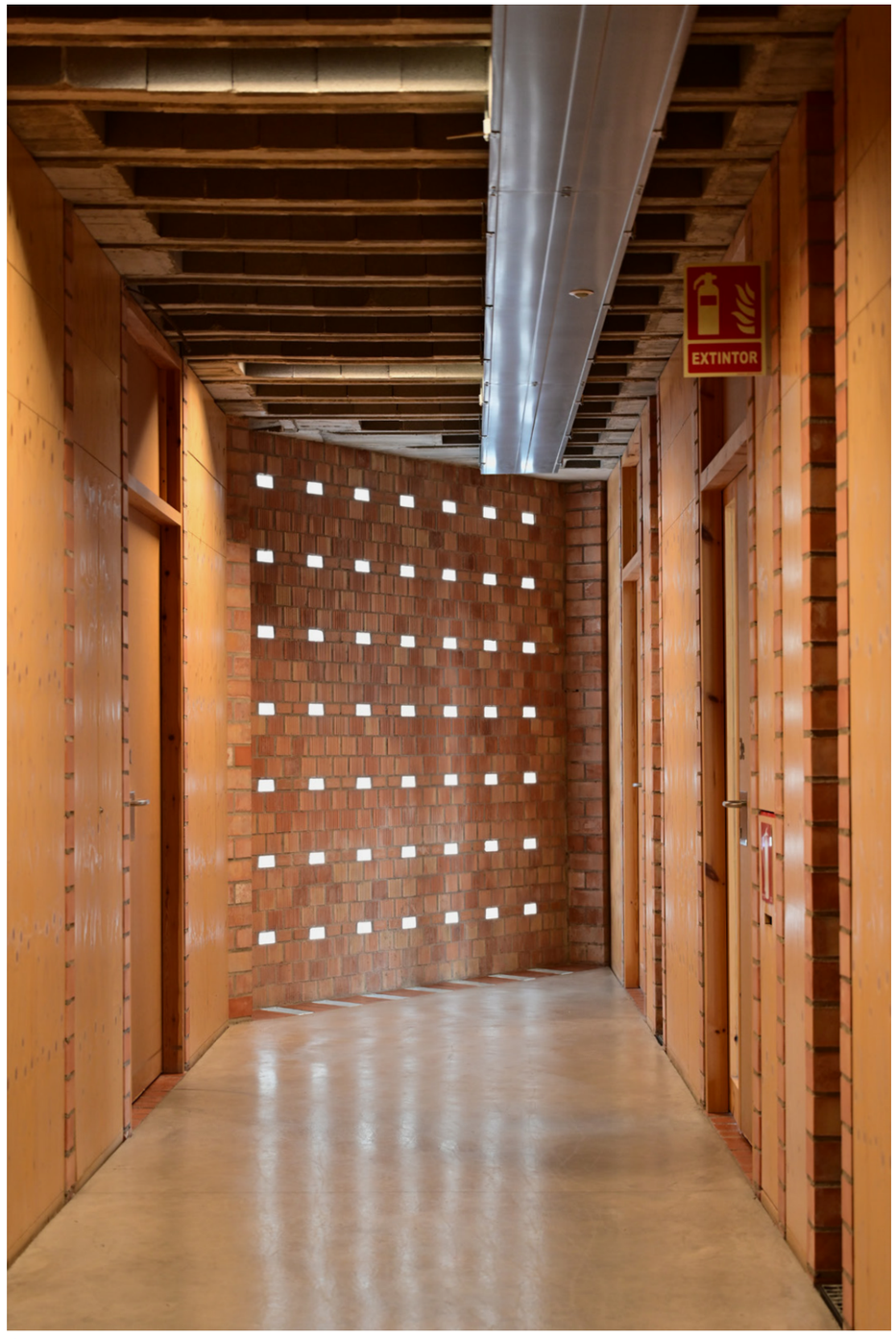
The Built World

Architectural Photography

Individual Work
Spring 2025
Elective Course
Instructor: Michael J. Vahrenwal



f / 10 *1 / 400 s* *ISO - 640* *51 mm*



f / 4 *1 / 20 s* *ISO - 640* *52 mm*

f / 5.6 *1 / 3200 s* *ISO - 640* *70 mm*

f / 4 *1 / 20 s* *ISO - 640* *60 mm*

f / 8 *1 / 6 s* *ISO - 640* *70 mm*

f / 4 *1 / 250 s* *ISO - 640* *70 mm*