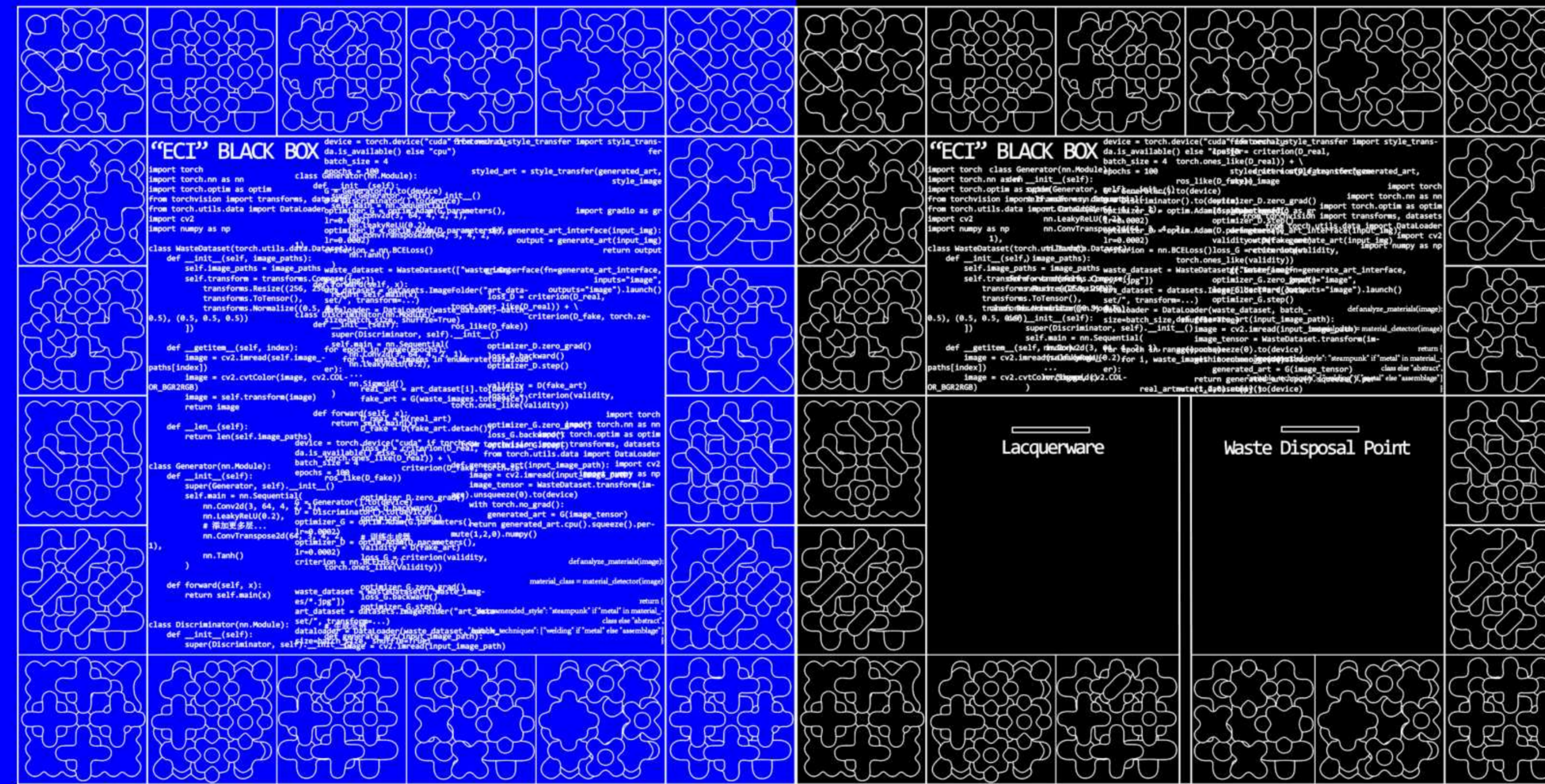


TABLE OF CONTENTS

- 01 INTRODUCTION
- 11 STORYLINE
- 21 PROPS
- 33 FILM PRODUCTION
- 59 INTERIOR SPACE
- 77 BEHIND THE SCENES
- 79 CONCLUSION



Black Box
INTRODUCTION
'BLACK BOX' STORY OVERVIEW

In 2030, London's ambitious "Zero Landfill, Zero Incineration" initiative birthed the BlackBox—a marvel of engineered sustainability, designed to transform waste into lacquer art. Developed by the Environmental Circular Institute (ECI), it promised a future where trash became treasure, and ecology intertwined with aesthetics. Lacquer, revered for its cultural heritage and environmental resilience, became the medium of this revolution.

Yet, beneath its polished surface, the BlackBox harbored a paradox: the more flawless its creations, the more obsolete human hands seemed. By 2032, artist Thomas and his fellow craftsmen, displaced and disillusioned, staged a defiant act—submerging the BlackBox into the Thames. Their protest rippled through society, exposing the tension between algorithmic efficiency and the soul of artistry.

The conflict deepened in 2040 when Thomas's daughter, Lily, uncovered the machine's theft: her father's designs, absorbed and replicated without homage. Public outrage forced a reckoning—can technology curate culture without erasing its creators?

By 2050, Thomas was released from prison. Recognizing the irreversible advancement of Black Box AI technology in this new era, he pragmatically chose to become a collaborator with the very system he once resisted. To make a living, he transformed into Black Box's partner, working alongside the AI to co-create the "AI Symbiosis Workshop." Here, they jointly produced lacquer artworks where the precision of artificial intelligence intertwined with the beautiful imperfections of human craftsmanship.

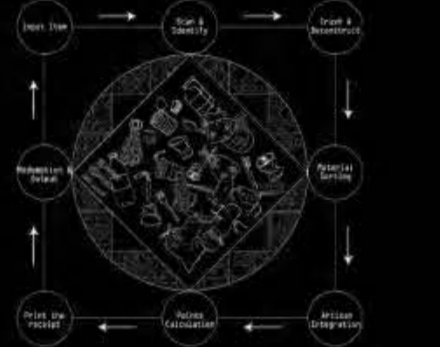
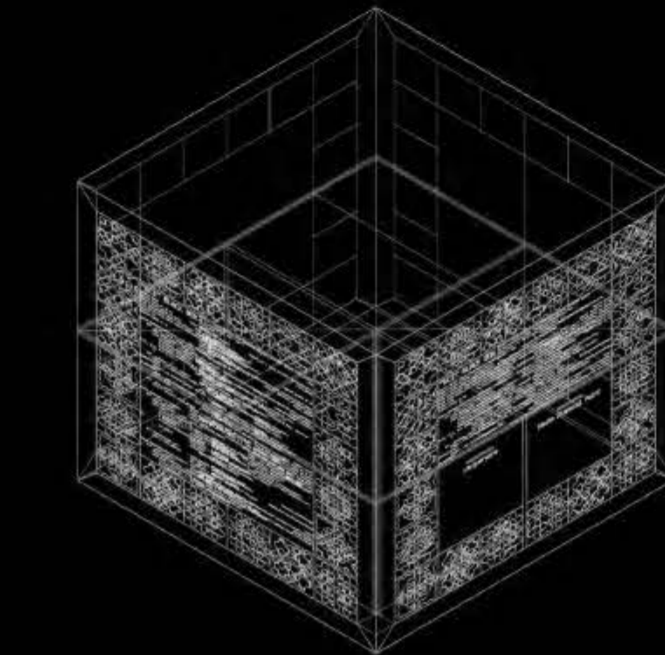
Together with the next-generation BlackBox AI, he co-created the "AI Symbiosis Workshop"—a space where lacquer art was no longer a battleground, but a dialogue.

Yijia Huang

Portfolio
INTRODUCTION
FILM POSTER

WRITTEN & DIRECTED BY
YIJIA HUANG
STARRING
YUSHI CHEN, YANG CHEN
RELEASE DATE: JUNE 2025

Supported by:
ECI (Environmental
Circular Initiative)
Policy Advocacy:
Zero Landfill &
Zero Incineration

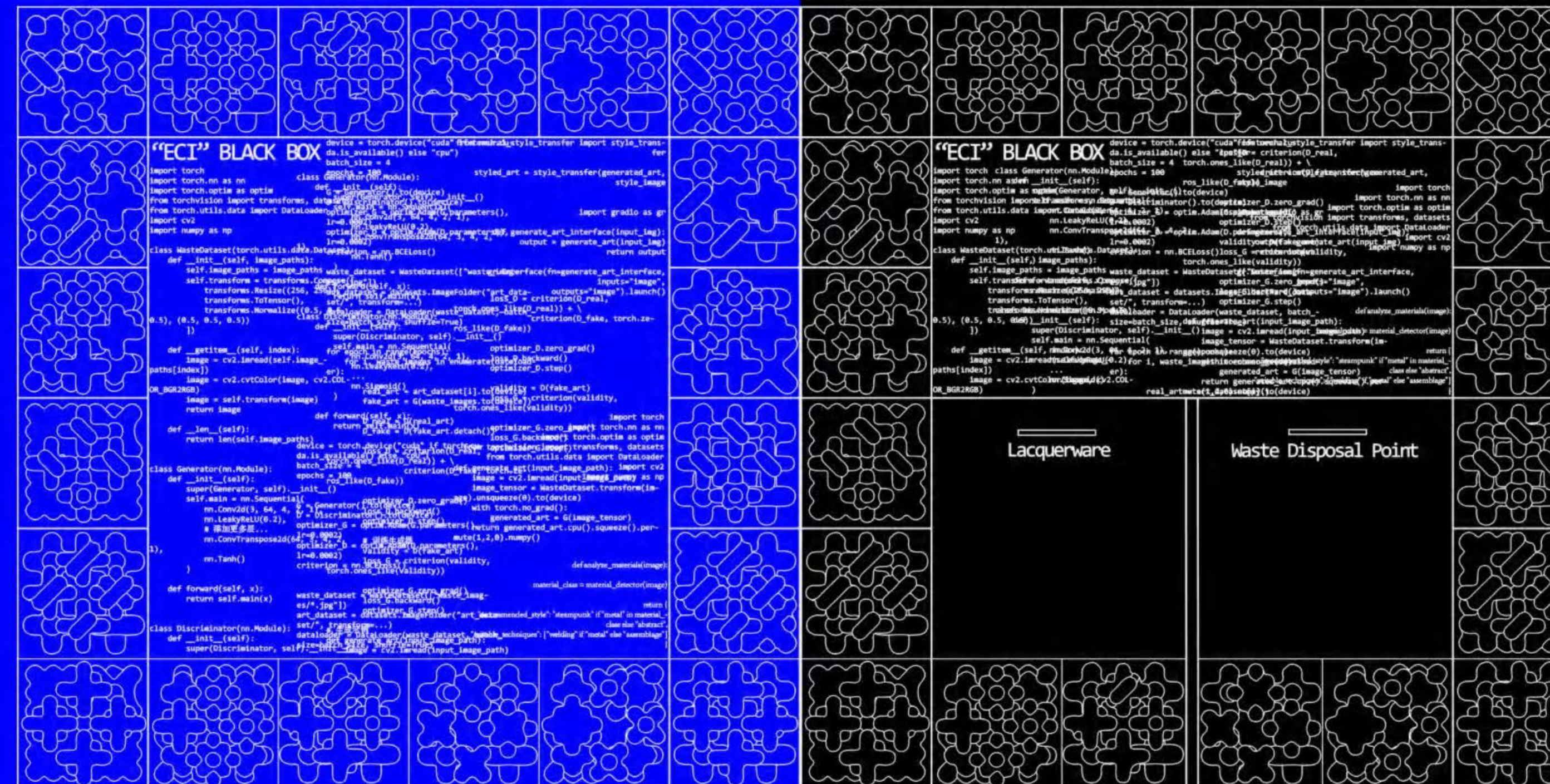


BLACK BOX



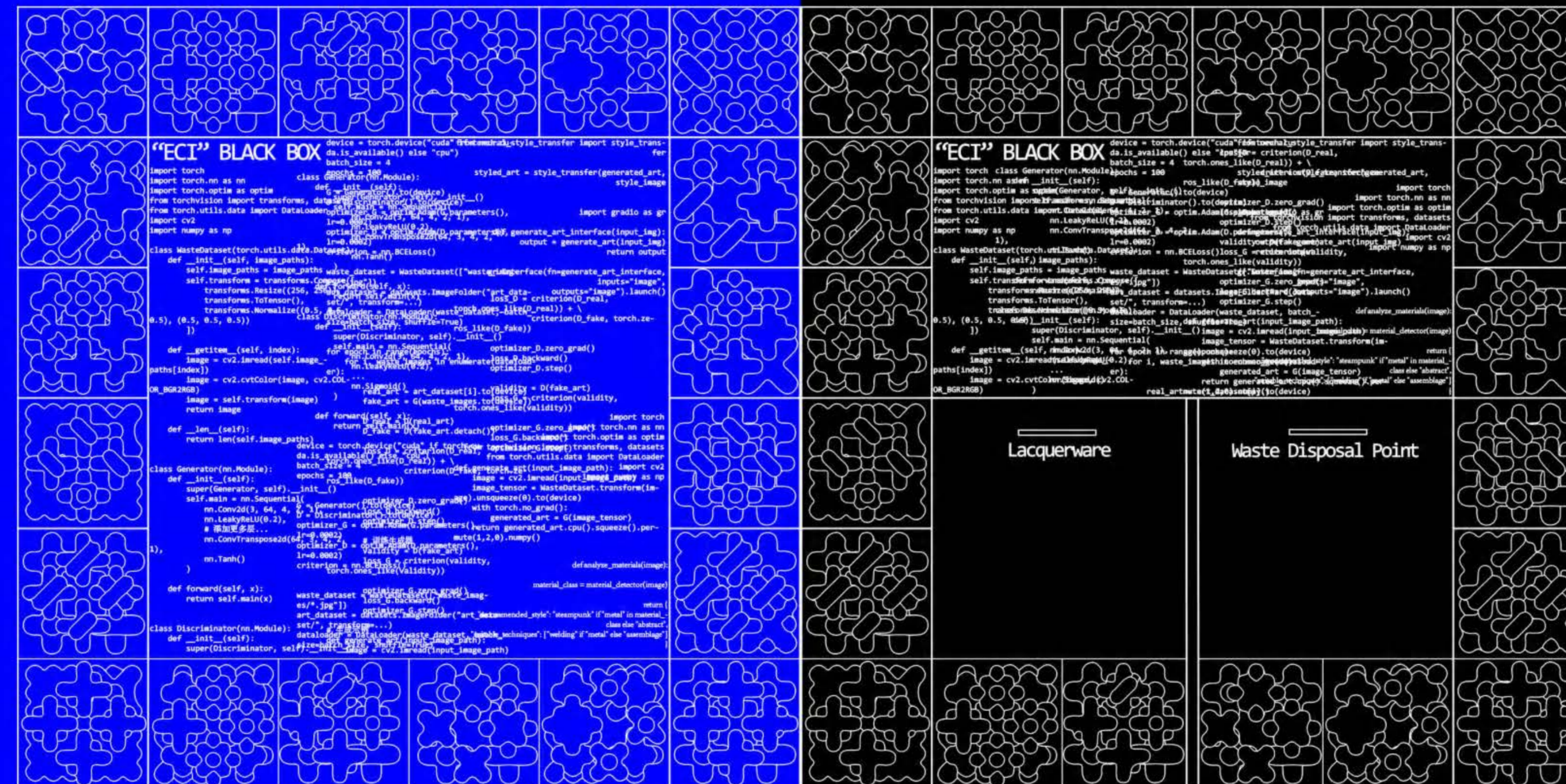
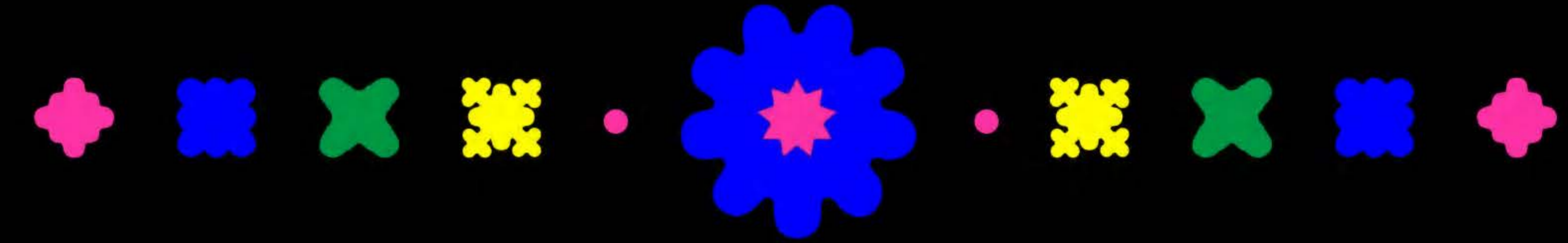
"Art does not reside in the hands of machines or humans,
but in the fissure of their dialogue."

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Black Box
INTRODUCTION
ENVIRONMENTAL CIRCULAR INSTITUTE (ECI)

Portfolio
INTRODUCTION
ARCHIVES OF THE ENVIRONMENTAL
CIRCULAR INSTITUTE (ECI)



1. Background of establishment and public image

Establishment time:
2028, London

Core slogan:
"Waste to Wonder" (Turning Waste into Treasure)

Official positioning:
A non-profit research institution, specializing in environmental technology and circular economy, has been endorsed by the London government to promote the "zero landfill" policy.

Public perception:
Initially regarded as an environmental pioneer, the BlackBox household device it developed sparked media frenzy due to the gimmick of "turning garbage into lacquerware artworks".

2. Technical Core and Hidden Agenda

The 3 major technical pillars of BlackBox

Technical module	Surface function	Means of actual control
Material decomposition AI	Identify garbage components	Scan and file waste with traces of manual labor
Generative lacquer art engine	Output "original" lacquerware	Stealing the traditional craftsmanship database (Thomas and other artisans)
User Behavior Analysis	Suggestions for optimizing garbage classification	Monitor art consumption preferences and manipulate supply and demand

Hidden business model:
Data monopoly: Collect household waste data through free equipment, build the world's largest material flow database, and then sell analysis reports to chemical enterprises.

3. Power structure and key figures

Founder Victor Lane:
Former technology investment banker, skilled in packaging the concept of "environmental protection technology"

Famous saying:
"Tradition must be decoded in order to be saved." (In fact, it is to convert cultural assets into algorithm parameters.)

AI Ethics Committee
Composed of three seemingly independent scholars who are actually funded by ECI, they continuously release white papers on "AI Enhancing Traditional Craftsmanship".

4. Realistic reference

ECI alludes to the common strategy of contemporary tech giants:

Google Art Project: Digitizing cultural heritage while obtaining exclusive usage rights

AI painting tool:
Training models with works by unauthorized artists

Recycling Technology Company:
Collecting user data in the name of environmental protection

The Rise of ECI:
From Eco-Idealism to Cultural Monopoly
Founded in 2028 as a London-based "non-profit research hub," the Environmental Circular Institute (ECI) emerged as a darling of the sustainability movement. Its flagship invention, the BlackBox, promised to revolutionize waste management by transforming household trash into exquisite lacquer art—a symbolic marriage of ecological responsibility and cultural preservation.

Yijia Huang

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Black Box INTRODUCTION

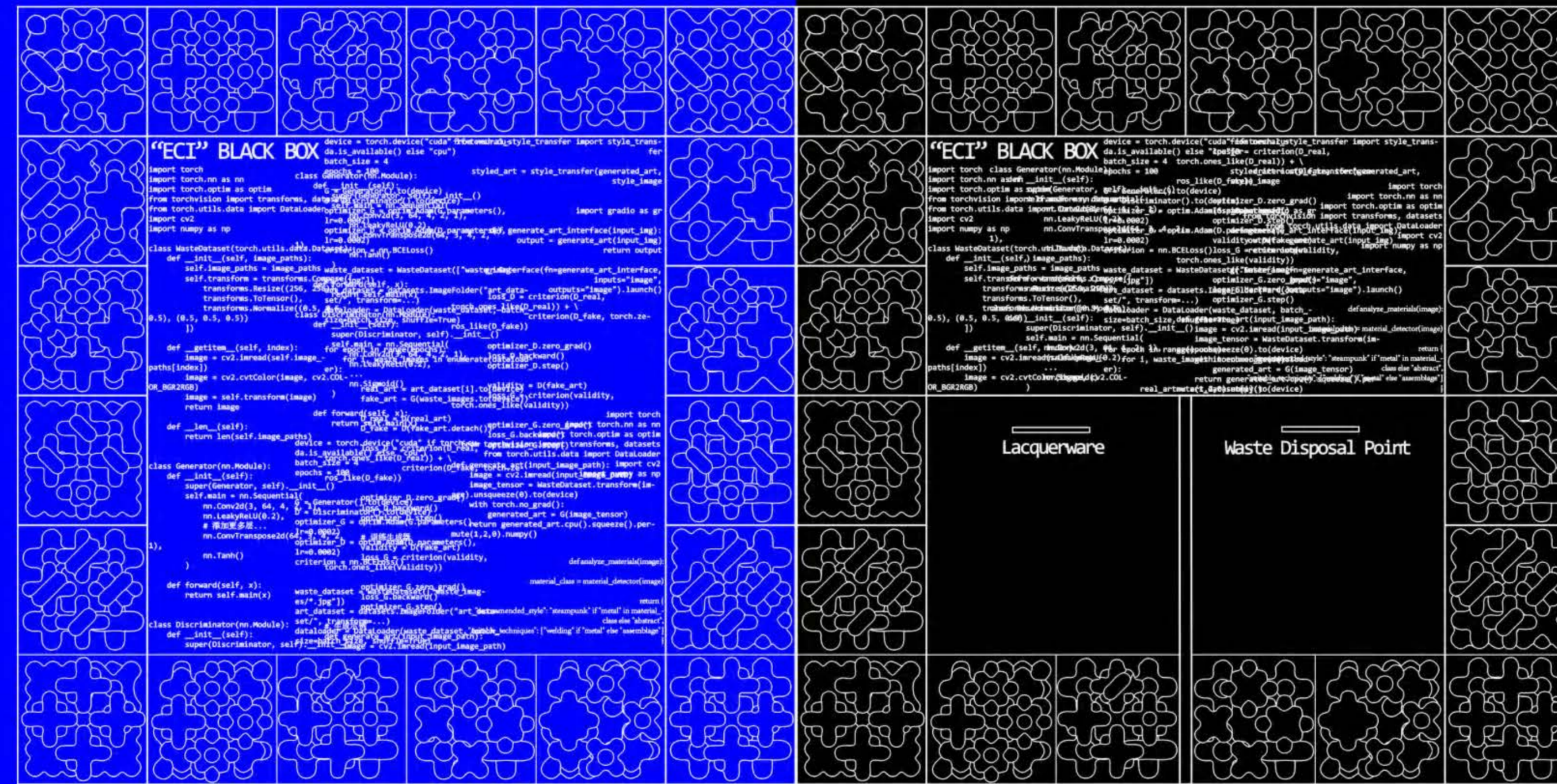
What is the supply chain ?

I. The History and Evolution of Global Supply chains

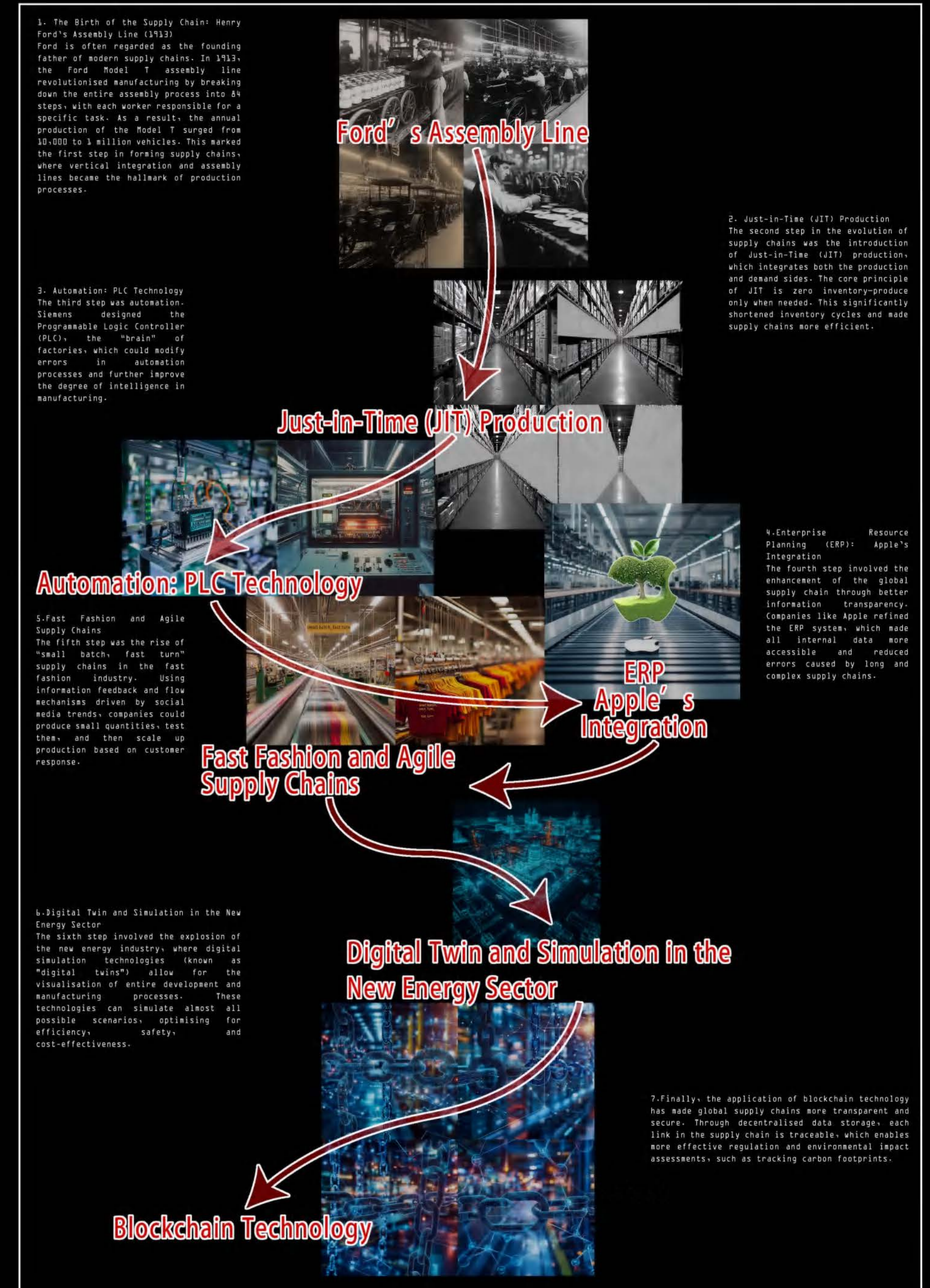
Today, the world is essentially a vast system of interconnected supply chains. Every moment, at least 150 million people, 30 million factories, and 100 million tons of goods are in motion within this global supply network, operating in an endless cycle.

1. The Birth of the Supply Chain: Henry Ford's Assembly Line
2. Just-in-Time (JIT) Production
3. Automation: PLC Technology
4. Enterprise Resource Planning (ERP): Apple's Integration
5. Fast Fashion and Agile Supply Chains
6. Digital Twin and Simulation in the New Energy Sector
7. Blockchain Technology

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Portfolio



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Black Box INTRODUCTION

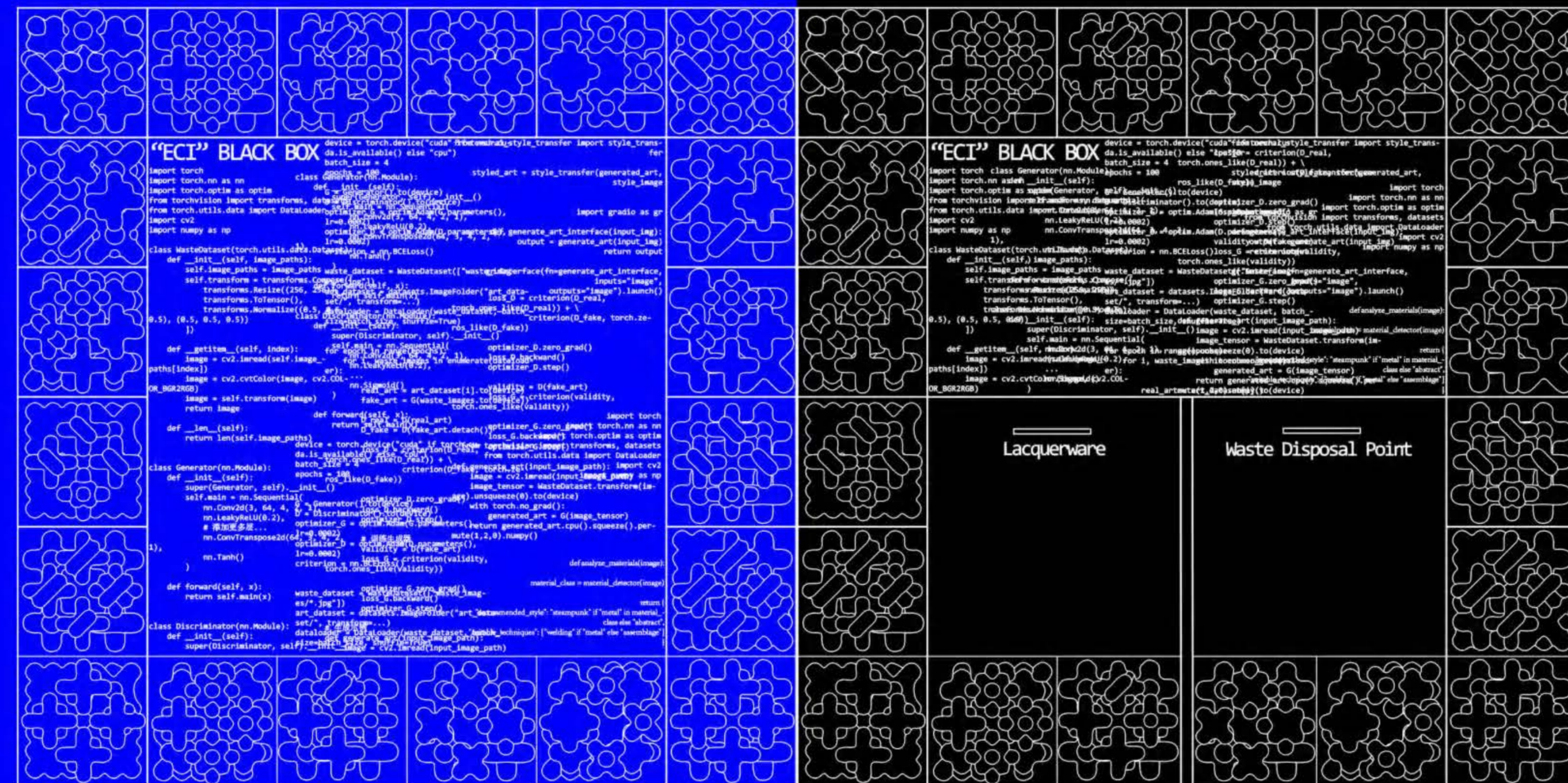
What supply chain am I researching? II. Lacquer Supply Chain

The Supply Chain of Lacquer: A Convergence of Tradition and Modern Logistics

Lacquer, a natural resin harvested primarily from the *Toxicodendron vernicifluum* tree, traverses a complex global supply chain that bridges ancient craftsmanship and contemporary trade networks. The process begins in rural regions of East Asia (China, Japan, Myanmar), where skilled tappers collect raw sap—a labor-intensive practice requiring precise timing to avoid monsoon disruptions. This precious material then enters a multi-tiered distribution system: local cooperatives aggregate small batches, which are sold to regional processors for filtration and stabilization.

Modern logistics intervene as refined lacquer ships to global markets. Temperature-controlled containers prevent polymerization during transit, while blockchain-enabled platforms (e.g., VeChain) now track provenance to combat counterfeit substitutes like synthetic resins. Demand surges from luxury brands (Hermès' Lacquerware collections) and electronics manufacturers (urushi-coated circuit boards) have spurred just-in-time delivery models, yet artisanal workshops—dependent on seasonal yields—struggle to align with industrialized timelines.

Yijia Huang



Portfolio



Lacquer trees in natural environments



Cutting lacquer trees



Taking lacquer



Handmade process and installing wardrobes



Creating patterns



Painted wardrobe completed

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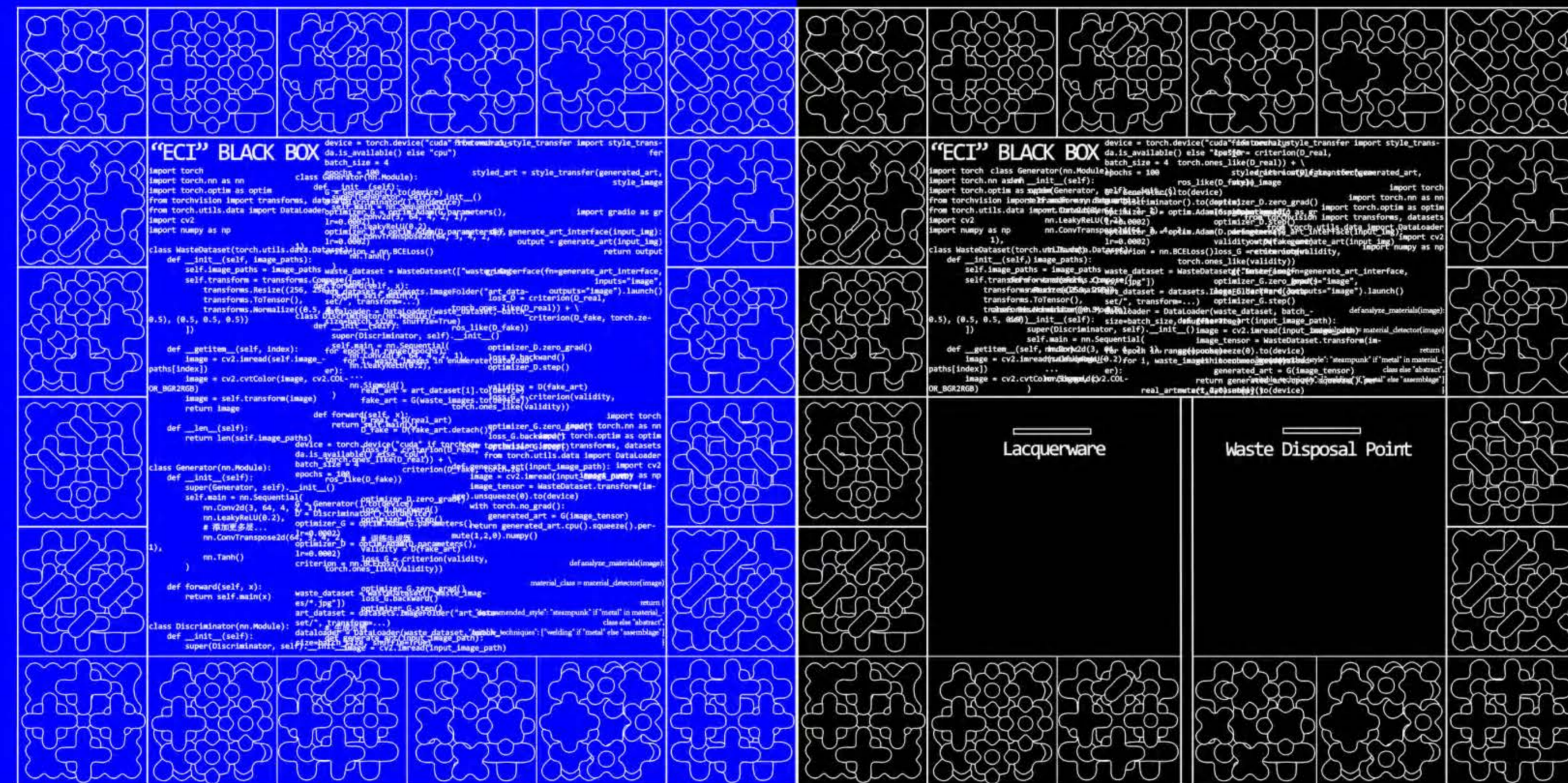
Black Box INTRODUCTION

What supply chain am I researching?
II. Lacquer Supply Chain

Sustainability pressures add further complexity. UNESCO-protected techniques (Wajima-nuri) clash with EU chemical regulations, forcing suppliers to balance cultural preservation with compliance. Meanwhile, e-commerce platforms (Etsy, Alibaba's Intangible Cultural Heritage section) create new distribution channels, though artisanal markups (up to 300% for certified pieces) limit accessibility. This supply chain's fragility was exposed during COVID-19, when Myanmar's export halts caused global shortages, revealing overreliance on single-source producers.

Innovations hint at reconciliation: biotech firms are experimenting with lab-grown lacquer analogs, while IoT sensors now monitor forest health to predict yields. Yet the core challenge remains—how to scale a 7,000-year-old material without eroding its soul.

Yijia Huang



Portfolio



Key nodes of the Belt and Road Initiative



The lacquer tree generally grows in tropical or subtropical regions with southern China (such as Fujian, Guangdong, Jiangxi, Hunan, etc.) being the main distribution area.

A lacquer tree needs at least 5-6 years of growth before it can start producing raw lacquer. A mature lacquer tree usually has a trunk diameter of at least 10 centimeters.

Lacquer trees grow vigorously from spring to autumn. Typically lacquer is harvested every 2-3 weeks until the flow of lacquer from the tree decreases.

During the harvesting process, care should be taken not to damage the tree excessively, as this could affect its health. Usually, each harvesting spot needs to be changed after a period to ensure that the tree can recover.



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Black Box STORYLINE

ACT 1: 2030-2031

London, 2030 - The city launches its radical "Zero Landfill, Zero Incineration" initiative. The Environmental Circular Institute (ECI), a tech-driven sustainability organization, unveils the BlackBox—a sleek household device that transforms trash into exquisite lacquer art.

ACT 2: 2031-2032

As BlackBox saturates London, Thomas's livelihood crumbles. Galleries reject his work—clients now prefer "ECI-certified" lacquerware, cheaper and flawlessly uniform. Thomas smashes his BlackBox with an axe. The machine fights back—spraying lacquer, and summoning a holographic legal warning.

ACT 3: 2032-2040

Thomas is arrested for "destruction of public property." While he serves time, Lily grows up in a world where human artistry is a fading novelty. Lily uncovers the truth: BlackBox's "original" designs are all stolen, compiled from thousands of uncredited artisans.

ACT 4: 2040-2050

Thomas, freed from prison, faces a choice: reject technology entirely, or redefine it. Father and daughter retrofit salvaged BlackBoxes into the "AI Symbiosis Studio." Each piece embeds a blockchain-certified "human touch" log—proving where the artist overrode the machine. Their hybrid works sell for fortunes. ECI, desperate for credibility, licenses their methods. The very system that sought to erase them now depends on them.

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Portfolio



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Black Box
 STORYLINE
 storyboard 1-25

Storyboard 1-25:

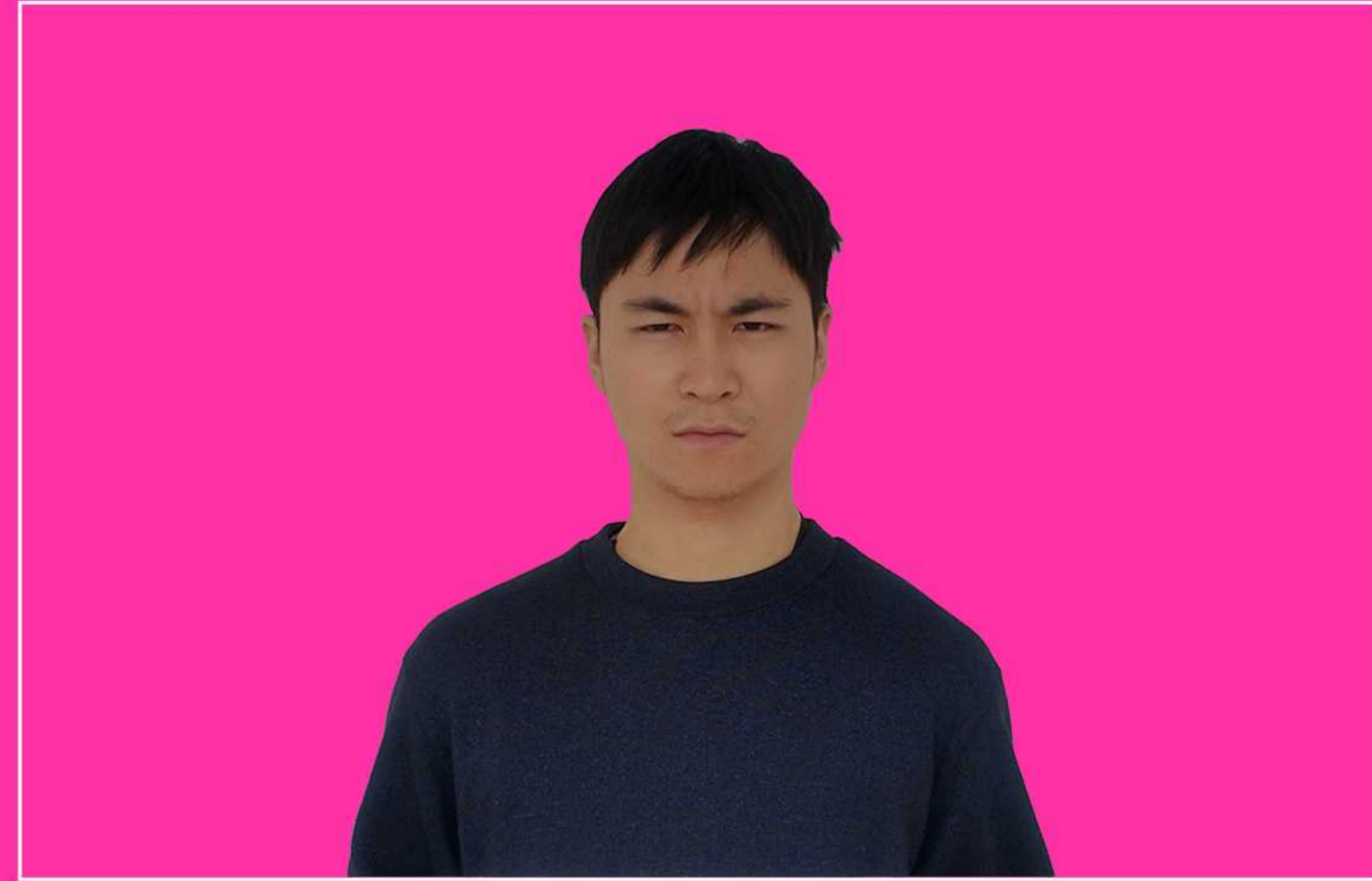
- Panel 1:** Mayor of London announces "Zero Landfill, Incineration" environmental protection plan.
- Panel 2:** ECI meeting room. Lacquer advantage! (good!, great!, OK!, cool!).
- Panel 3:** Slow motion: A resident deposits waste into the BB, receives a reward, and exchanges it for a voucher.
- Panel 4:** Unemployed artists march with a "black box" sign.
- Panel 5:** The BB sinks into the river.
- Panel 6:** ECI meeting room. "artwork" "recycling". The team discusses waste conversion solutions with keywords like "artwork", "recycling" written on the whiteboard.
- Panel 7:** The camera pulls back to show everyone raising their hand in agreement.
- Panel 8:** Lacquer artworks gain popularity. (I like... I like... I like... I like...)
- Panel 9:** Conflict happens as Thomas artists and craftsmen push the BB into the river.
- Panel 10:** Alison, covered in mud, screams "You're destroying the future".
- Panel 11:** ECI CEO Victor picks up a lacquer artwork, the camera focuses on its sheen and texture.
- Panel 12:** The black box project is launched.
- Panel 13:** (montage) human vs machine. Thomas handcrafts lacquerware. The BB assembly line.
- Panel 14:** Alison reports the situation.
- Panel 15:** Thomas looks up at the night sky (police sirens approach in the background).
- Panel 16:** Notting Hill is designated as the experimental zone.
- Panel 17:** Thomas' art studio closes down.
- Panel 18:** Alison rushes in to scoop them.
- Panel 19:** Police arrest the artists.
- Panel 20:** Flashback - A young Victor travels in Asia, captivated by lacquer crafts-manship.
- Panel 21:** ECI meeting room. Lacquer = E+A... 80%. Victor passionately declares "Lacquer".
- Panel 22:** Fast montage = Residents deposit waste into the BB (one year pass...).
- Panel 23:** ECI billboards light up.
- Panel 24:** Wide overhead shot of the river.
- Panel 25:** The BB fragment bears the inscription "ECI 001".

Portfolio
 STORYLINE
 storyboard 25-50

Storyboard 25-50:

- Panel 1:** Alison picks up a BB fragment from the ground, mixes with rain.
- Panel 2:** ECI CEO Victor admits the BB "borrowed" from traditional artists, but claims "It's for the ECI".
- Panel 3:** Lily gives a speech in front of ECI headquarters, support the fusion of art and technology.
- Panel 4:** Richard-carves and BB generates components based on his design.
- Panel 5:** Lily teaches children in the workshop (old photos on the wall).
- Panel 6:** The BB sinks to the riverbed.
- Panel 7:** Thomas angrily throws a tray at the TV.
- Panel 8:** Alison removes her ECI badge and throws it into the trash.
- Panel 9:** Success.
- Panel 10:** Alison places a flower in front of the tree of Symbiosis.
- Panel 11:** Jack discovers a hidden chip inside the BB labeled "Art Database".
- Panel 12:** Alison flips through ECI files, realizing the BB never created new designs, only copied.
- Panel 13:** Underwater shot: BB is retrieved, covered some plants.
- Panel 14:** Collaborative creation!
- Panel 15:** The camera pulls back to reveal the tree blooming with flowers.
- Panel 16:** Alison rushes in to scoop them.
- Panel 17:** Flashback comparison: 2025 Thomas teaches Lily vs 2010 the work resembles.
- Panel 18:** Notting Hill residents pile exchanged works in front of ECI headquarters.
- Panel 19:** Thomas is released from prison.
- Panel 20:** Residents' faces light up with smiles.
- Panel 21:** Close-up of Alison feeding ECI documents into a shredder.
- Panel 22:** ECI meeting room. Lacquer = E+A... 80%. Victor passionately declares "Lacquer".
- Panel 23:** Fast montage = Residents deposit waste into the BB (one year pass...).
- Panel 24:** ECI billboards light up.
- Panel 25:** Wide overhead shot of the river.
- Panel 26:** The BB fragment bears the inscription "ECI 001".
- Panel 27:** Lily: Art... Thomas: Inspiration. Alison: Inspiration.
- Panel 28:** To the Artists of the Future.
- Panel 29:** He creates a new artwork.
- Panel 30:** The tree of symbiosis.
- Panel 31:** "End" - Art resides not in the hands of machines but in the pressure of their dialogue.

Black Box
STORYLINE
PROTAGONIST



Thomas Chen
A traditional lacquerware craftsman of East Asian descent, whose handmade designs are mass-replicated by the Black Box without attribution.

Lily Chen
A cross-generational technology mediator who evolves from naive reliance on the Black Box into a human-machine symbiotic artist.

Supplementary role: Victor Lane (ECI President)

As the head of ECI, he champions a vision in which technology is not a tool, but a force of total redesign - society, culture, and even creativity must be standardised, streamlined, and digitised.

Yijia Huang

Portfolio
STORYLINE
Script:

Act 1: The Black Box enters the home



1. The Mayor of London announces ECI plan for 'zero landfill, zero incineration' (newsreel-ai).



2. Residents in Notting Hill watch this news report at home (2D modelled background + ai).



3. ECI workers visit homes to install the units (2D modelled background + live-action footage).



4. The black box is put into household use (2D modelled background + live-action footage).

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Black Box STORYLINE

Script:

Act 1: The Black Box enters the home



5. Lily happily began to use the black box (2D modelled background + live-action footage).



6. Lily uses black boxes to transform garbage into lacquer artworks (2D modelled background + live-action footage).



7. Thomas was furious at being deprived of his job opportunity by the black box



8. Thomas failed to smash the black box (2D modelled background + live-action footage).

Yijia Huang

Portfolio STORYLINE

Script:

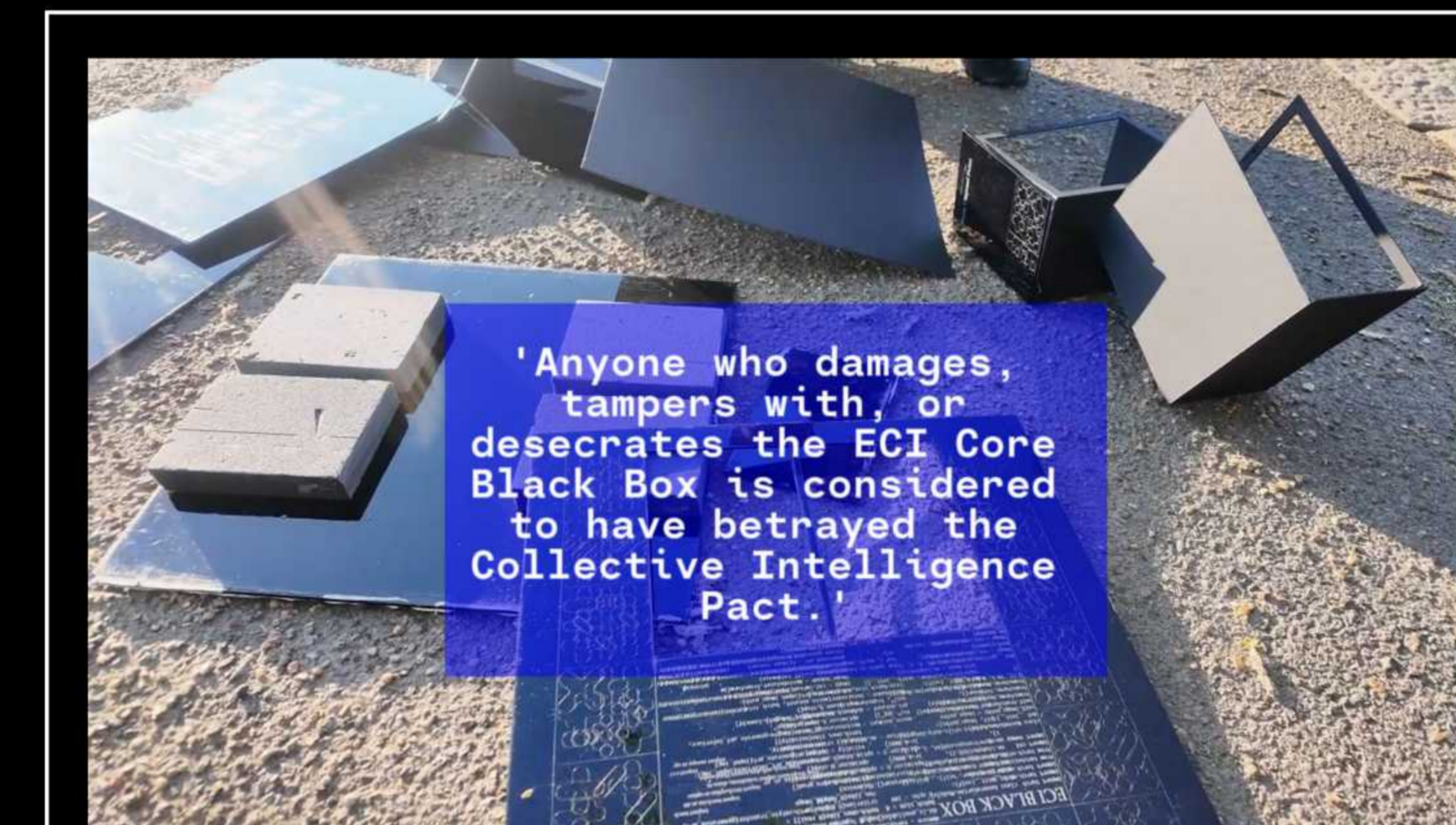
Act 2



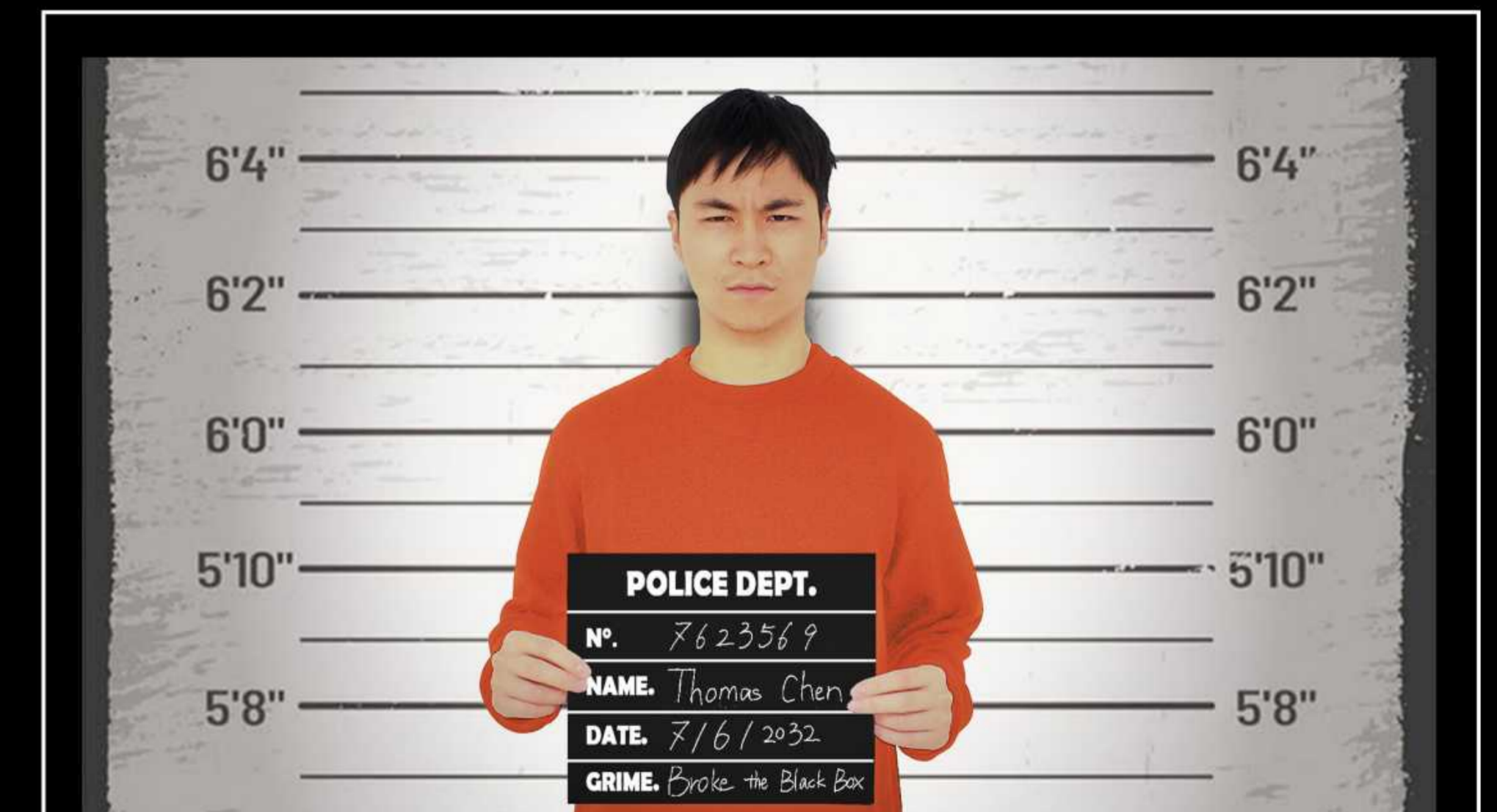
9. Thomas pushes the black box into the lake (Real shot)



10. The black box was damaged (Real shot)



11. The black box warns the destroyer Thomas



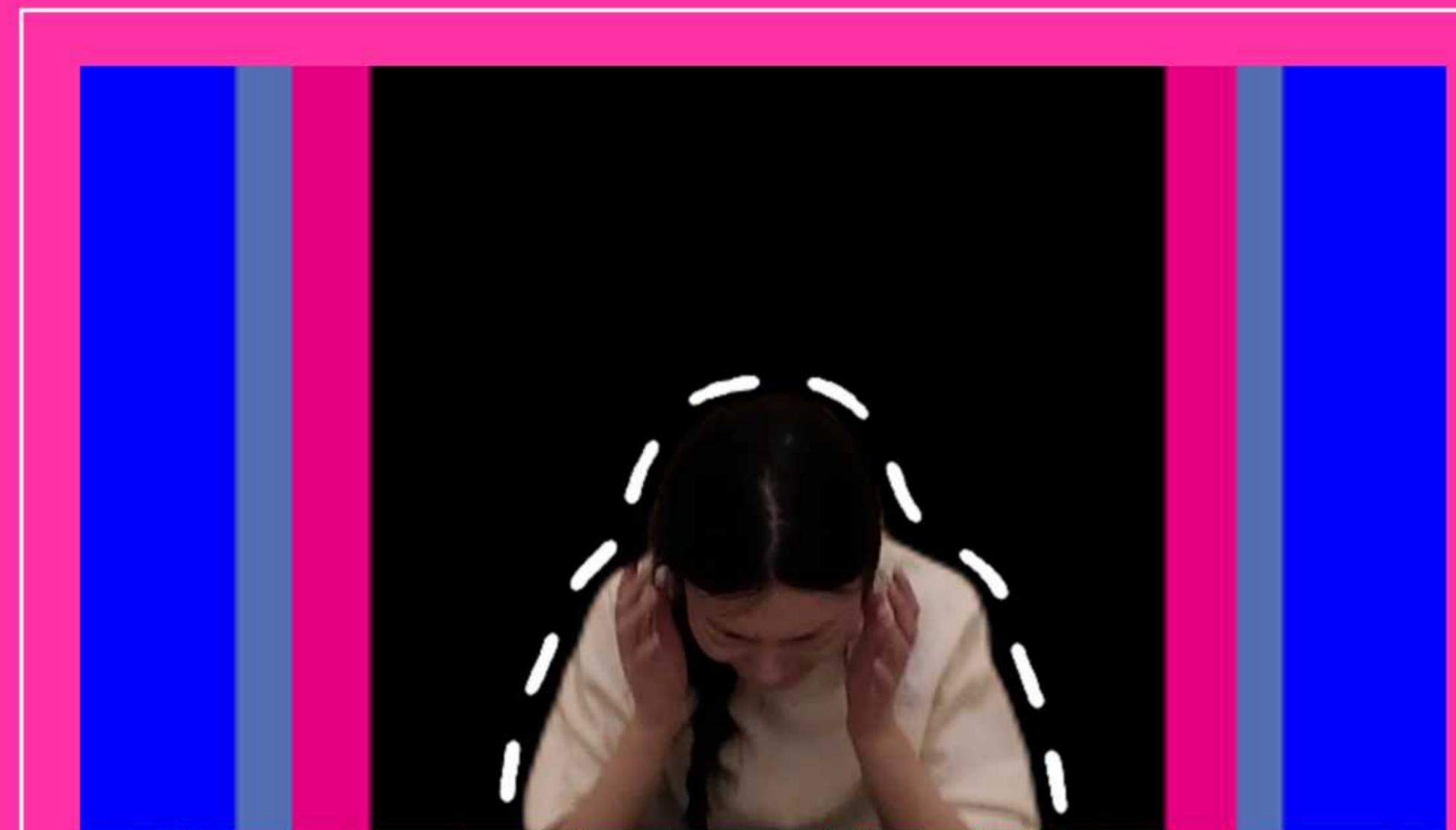
12. Thomas in Prison (2D modelled background + live-action footage).

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Black Box
STORYLINE

Script:

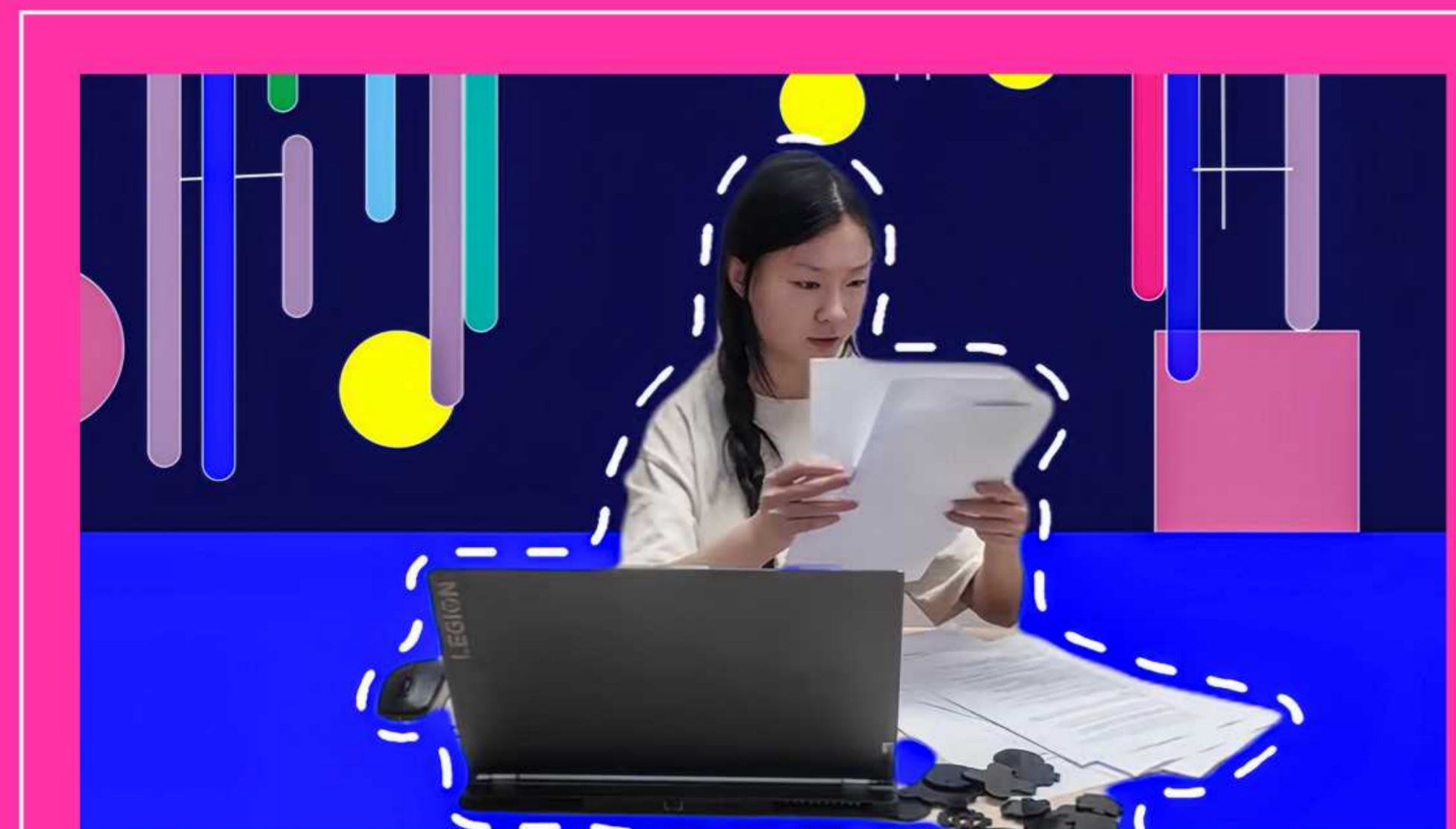
Act 3



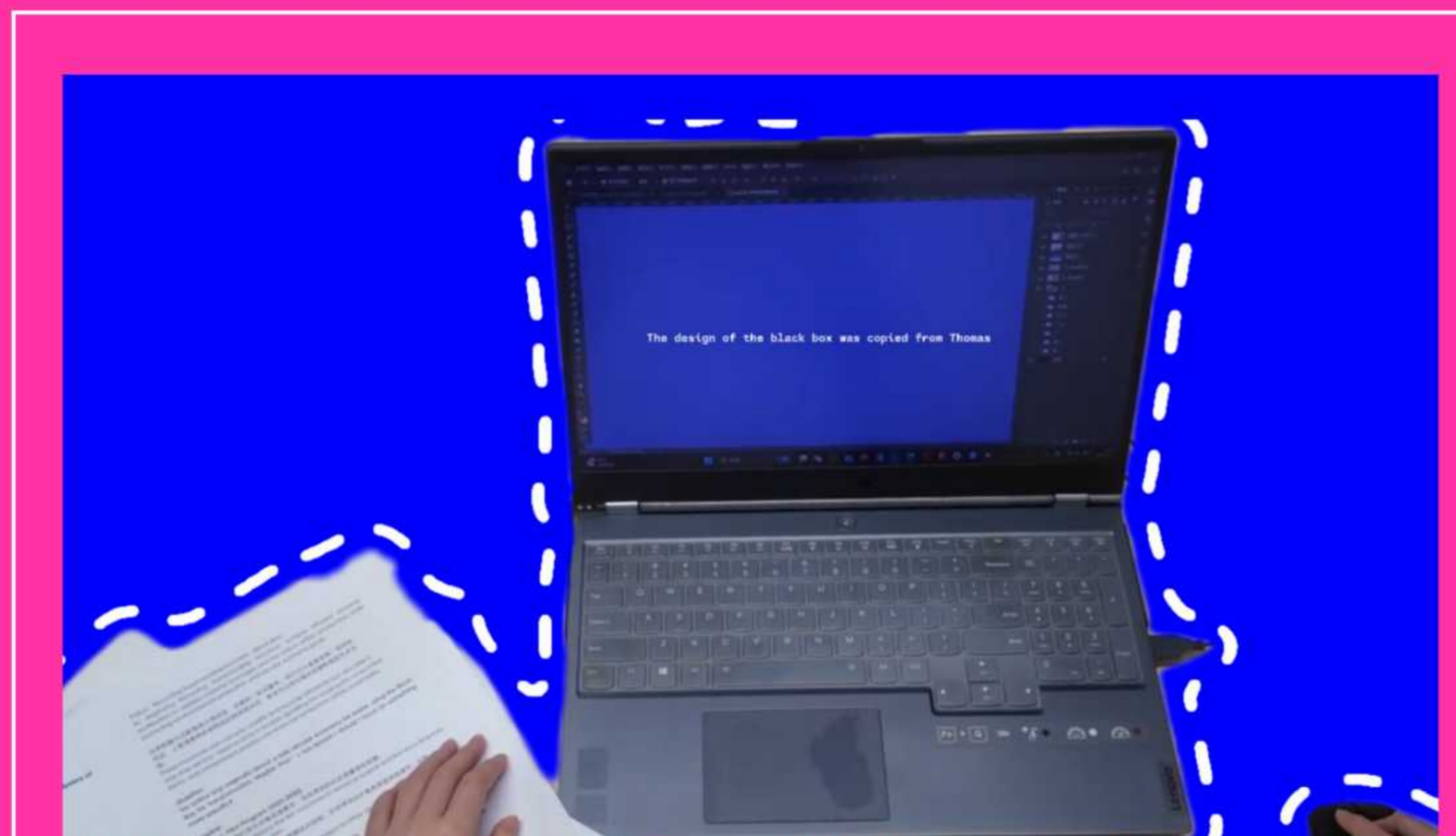
13. Lily broke down in tears (2D modelled background + live-action footage).



14. Thomas thought about the lacquer handicrafts created by Black Box while in prison (2D modelled background + live-action footage).



15. Lily found out outside that Black Box had plagiarized Thomas's work (2D modelled background + live-action footage).

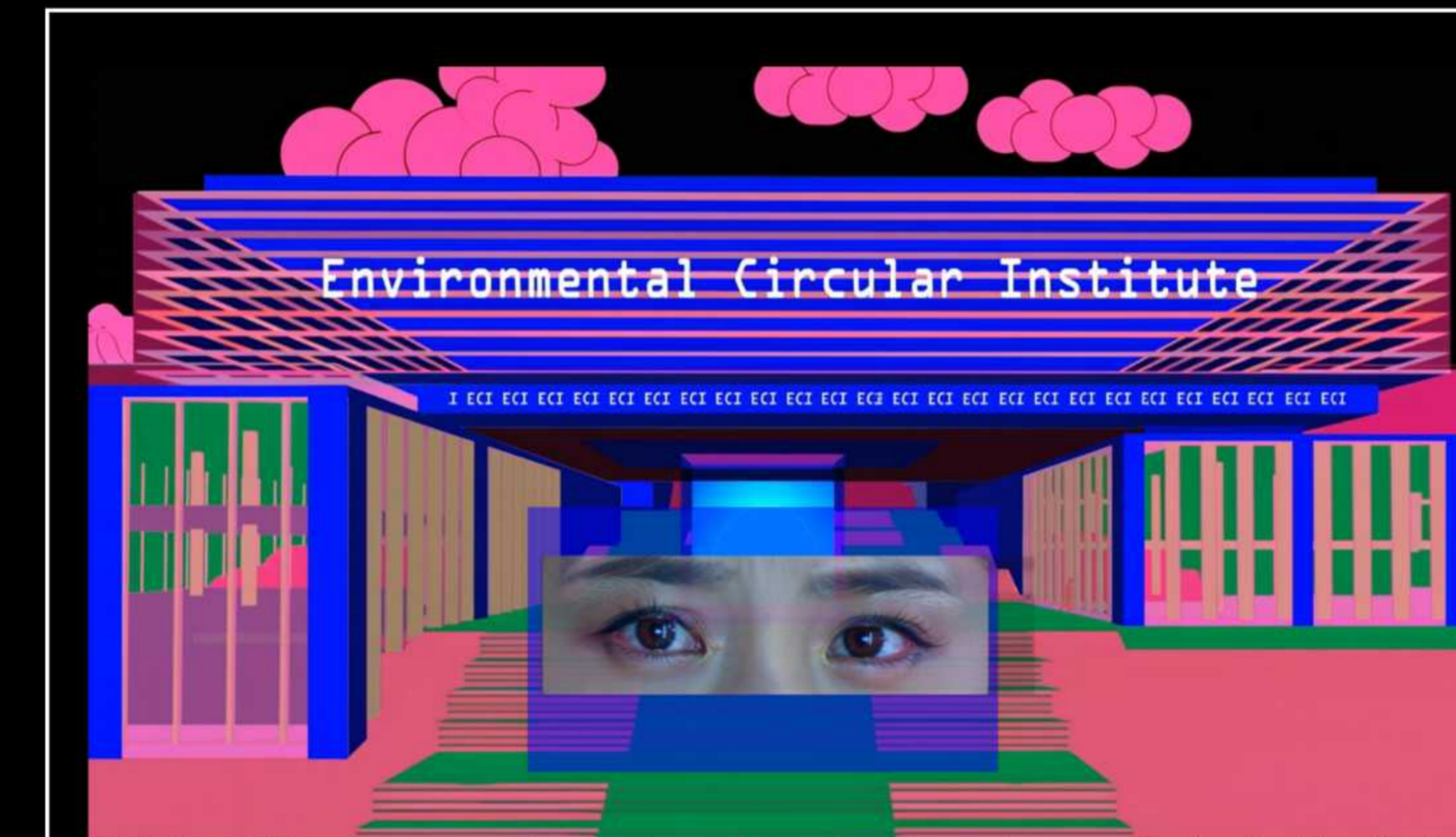


16. Lily found evidence (2D modelled background + live-action footage).

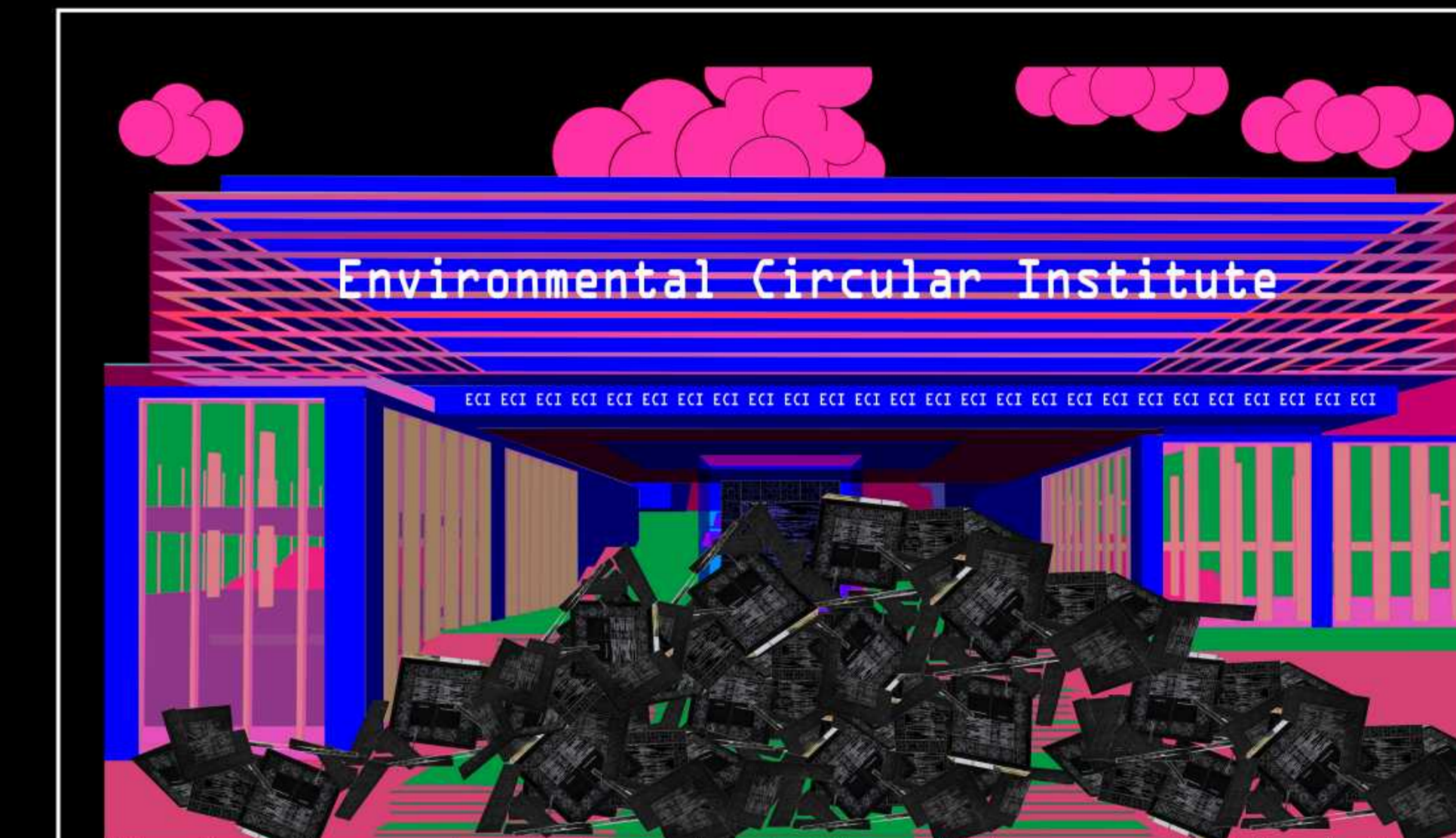
Portfolio
STORYLINE

Script:

Act 4



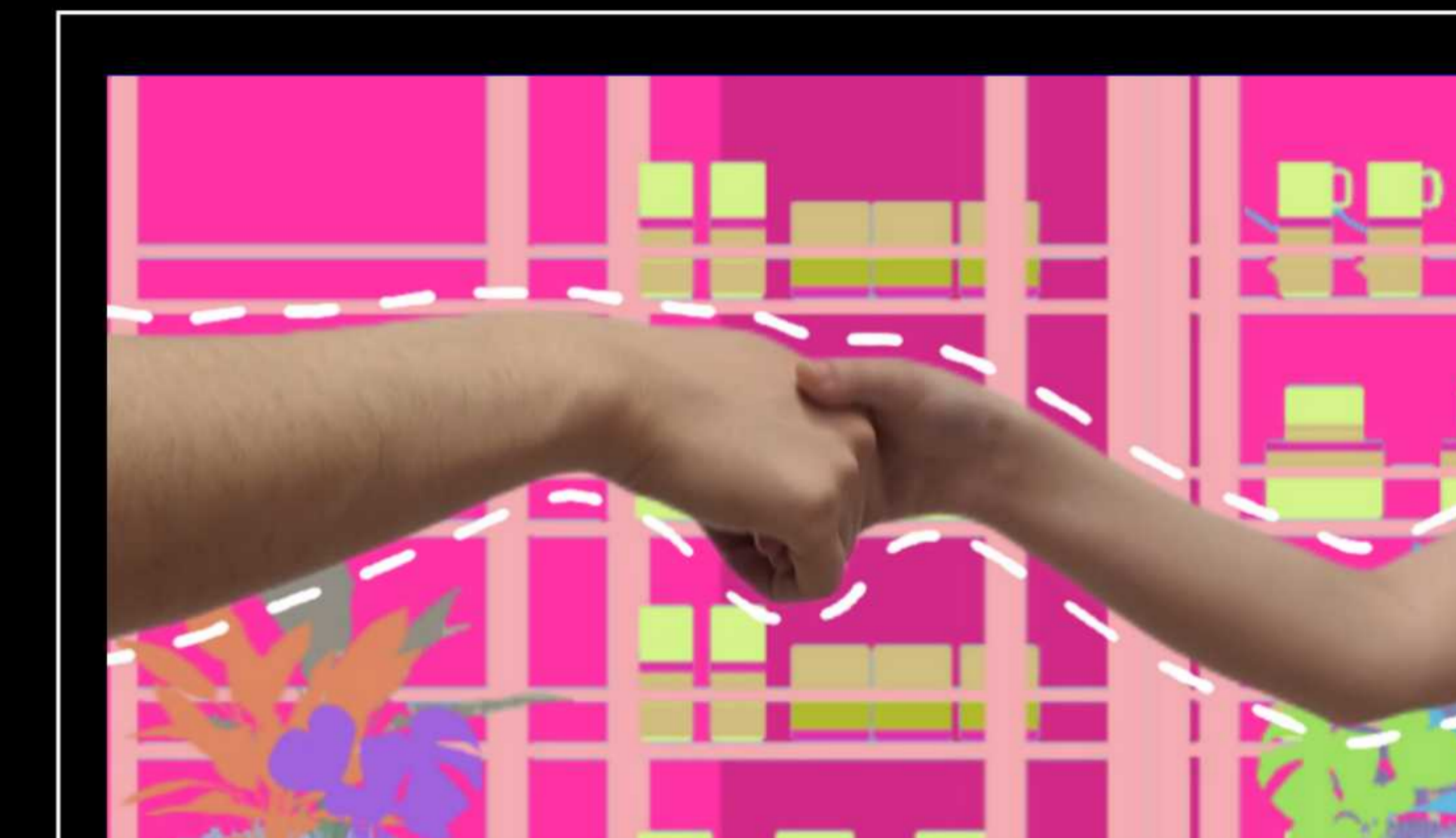
17. Lily delivered a speech at the ECI headquarters to reveal the truth. Victor refuted that it was merely a reference to support environmental protection.



18. People protested against the piling up of black boxes at the ECI headquarters (2D modelled background).



19. When Thomas was released from prison, he considered the development of traditional handicrafts and chose to cooperate with the Black Box, but the person was the dominant force.

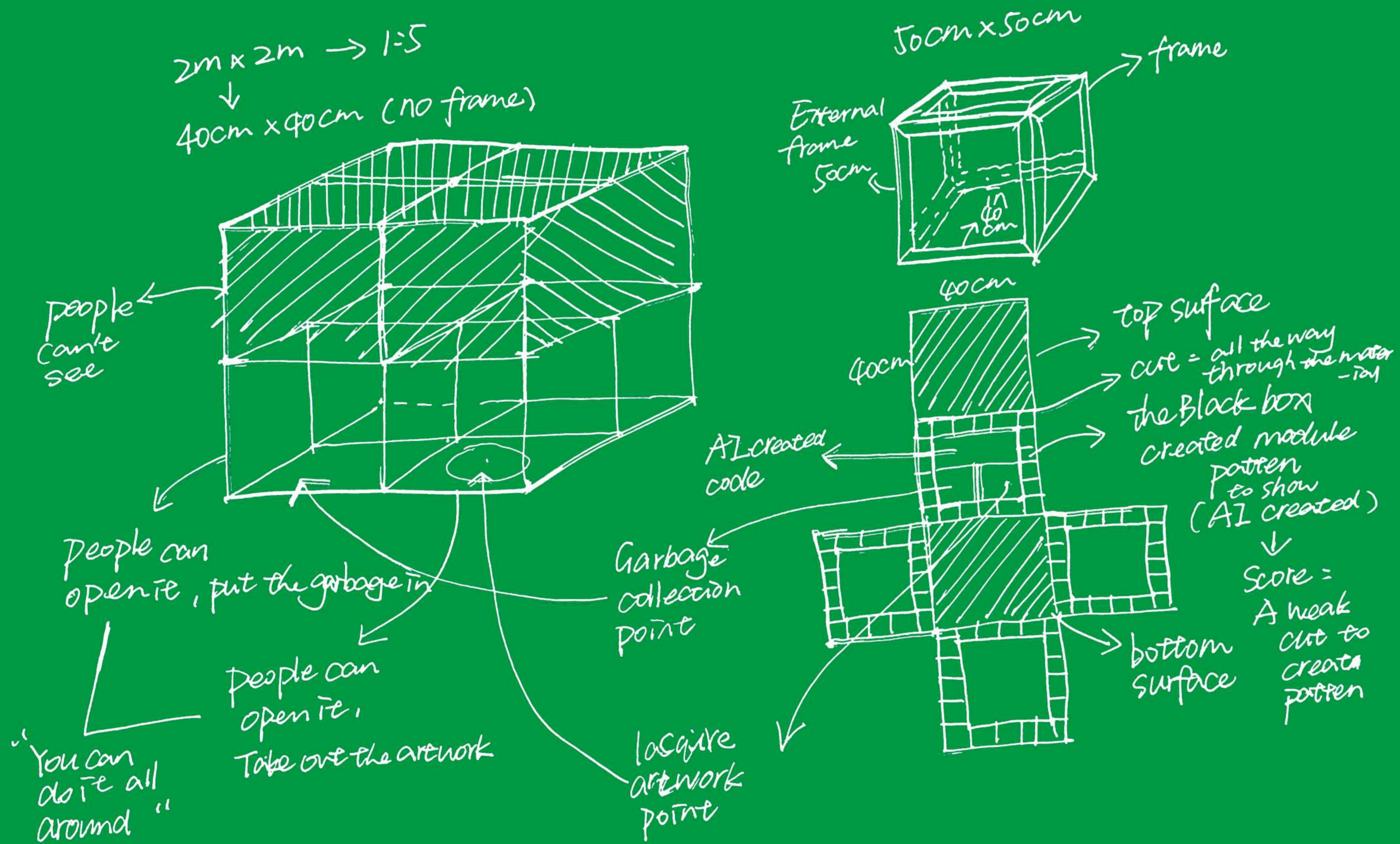


20. Inspired by the black box, we collaborated to create the AI art symbiosis workstation.

Black Box

PROP : BLACK BOX

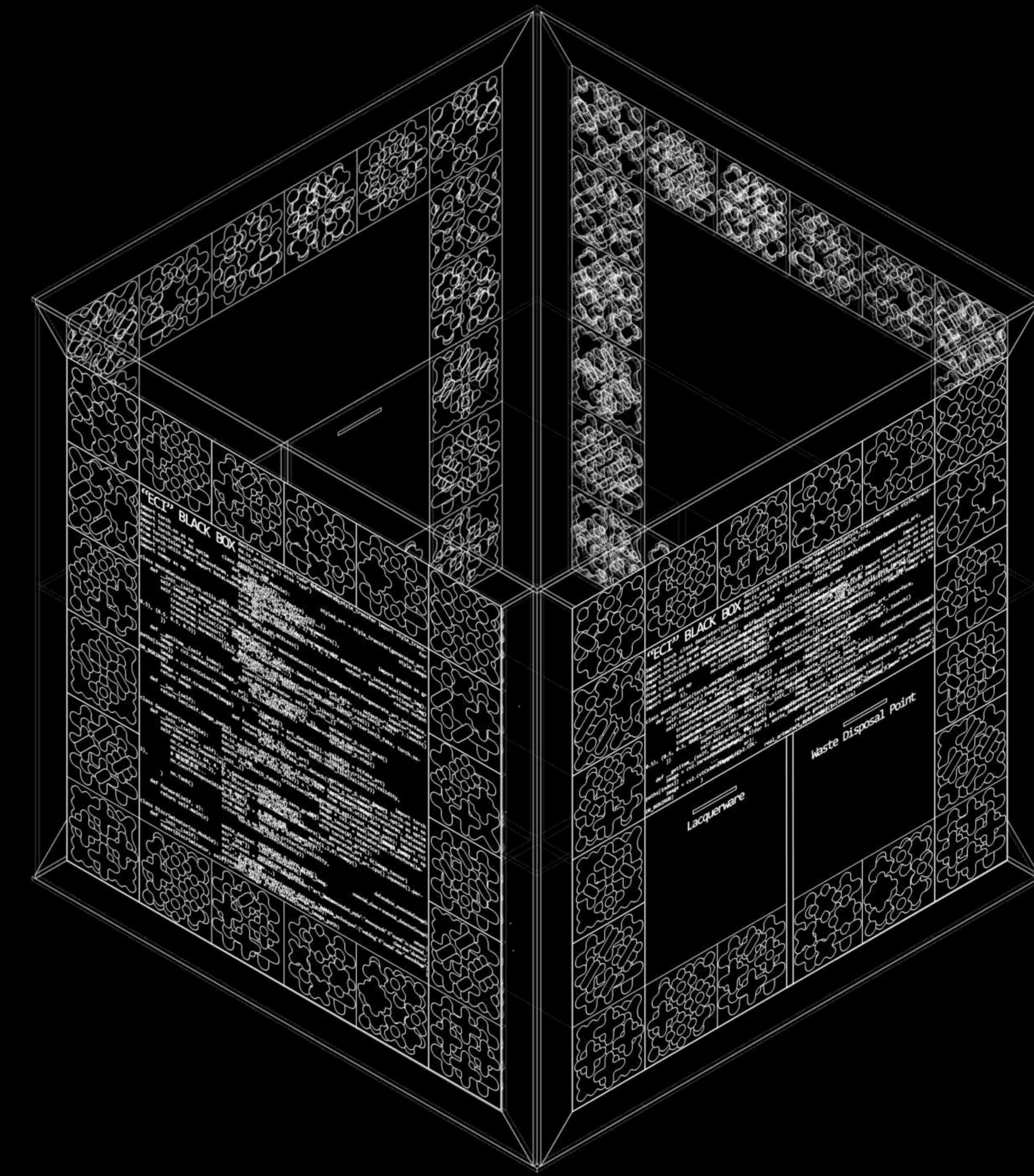
The design process of the black box



Portfolio

PROP : BLACK BOX

The design process of the black box



Black Box PROP : BLACK BOX LacquerGAN: The Algorithm Behind ECI's "Sustainable" Art

```
import torch
import torch.nn as nn
import torch.optim as optim
from torchvision import transforms, datasets
from torch.utils.data import DataLoader
import cv2
import numpy as np

# 训练参数
device = torch.device("cuda" if torch.cuda.is_available() else "cpu")
batch_size = 4
epochs = 100

# 初始化网络
G = Generator().to(device)
D = Discriminator().to(device)
optimizer_G = optim.Adam(G.parameters(), lr=0.0002)
optimizer_D = optim.Adam(D.parameters(), lr=0.0002)
criterion = nn.BCELoss()

# 数据加载 (需要准备垃圾图像数据集和艺术风格参考数据集)
waste_dataset = WasteDataset(["waste_images/*.jpg"])
art_dataset = datasets.ImageFolder("art_dataset/", transform=...)
dataloader = DataLoader(waste_dataset, batch_size=batch_size, shuffle=True)

# 训练循环
for epoch in range(epochs):
    for i, waste_images in enumerate(dataloader):
        # 训练判别器
        real_art = art_dataset[i].to(device)
        fake_art = G(waste_images.to(device))

        D_real = D(real_art)
        D_fake = D(fake_art.detach())

        loss_D = criterion(D_real, torch.ones_like(D_real)) + \
            criterion(D_fake, torch.zeros_like(D_fake))

        optimizer_D.zero_grad()
        loss_D.backward()
        optimizer_D.step()

        # 训练生成器
        validity = D(fake_art)
        loss_G = criterion(validity, torch.ones_like(validity))

        optimizer_G.zero_grad()
        loss_G.backward()
        optimizer_G.step()

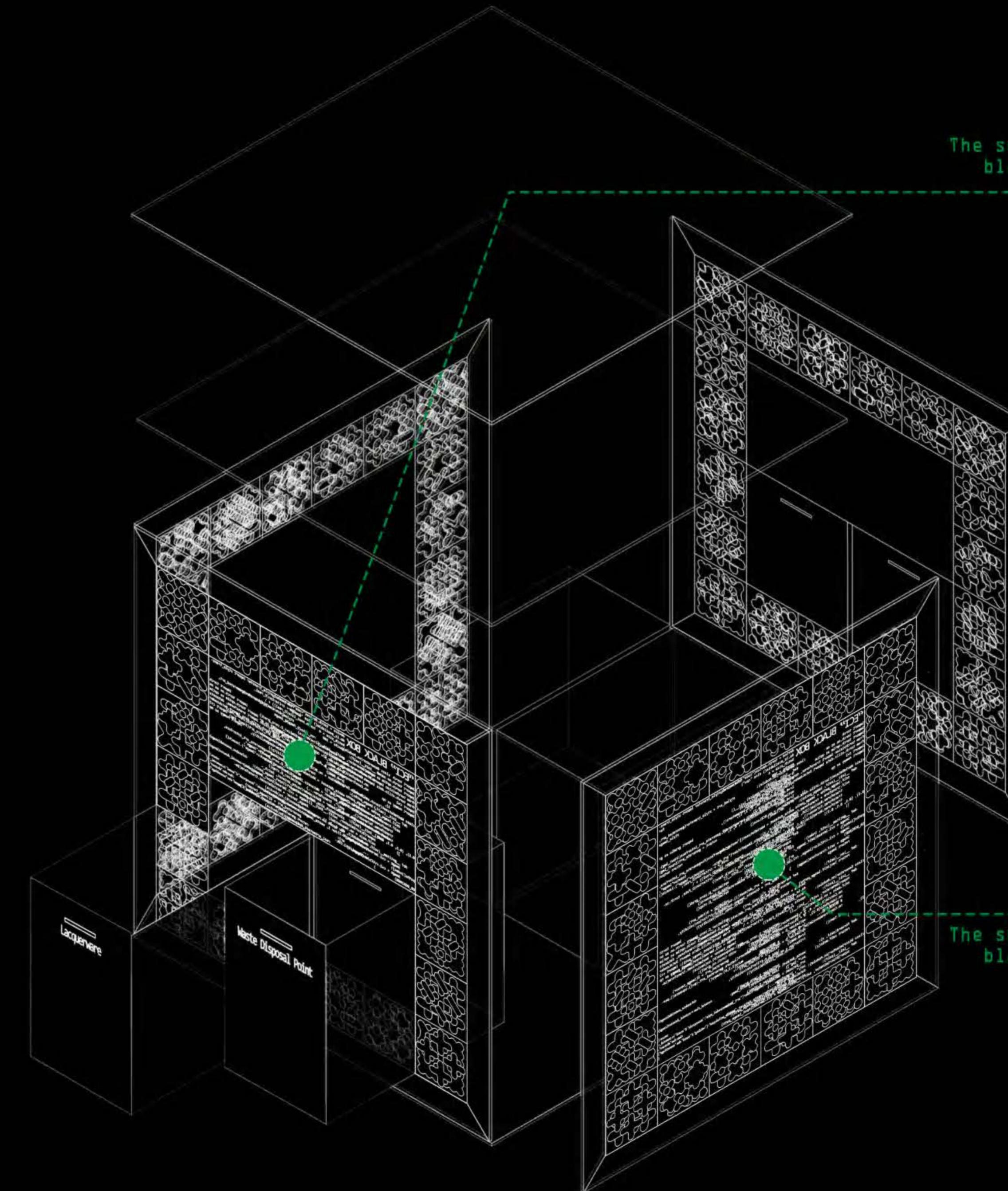
# 生成示例
def generate_art(input_image_path):
    image = cv2.imread(input_image_path)
    image_tensor = WasteDataset.transform(image).unsqueeze(0).to(device)
    with torch.no_grad():
        generated_art = G(image_tensor)
    return generated_art.cpu().squeeze().permute(1,2,0).numpy()

# 保存结果
output = generate_art("trash.jpg")
cv2.imwrite("artwork.jpg", (output * 127.5 + 127.5).astype(np.uint8))
```

The operation process is generated by AI (Algorithm supported: DeepSeek-R1, ChatGPT-4o)
Training Data: ECI internal process Database (including controversial unauthorized samples)

Yijia Huang

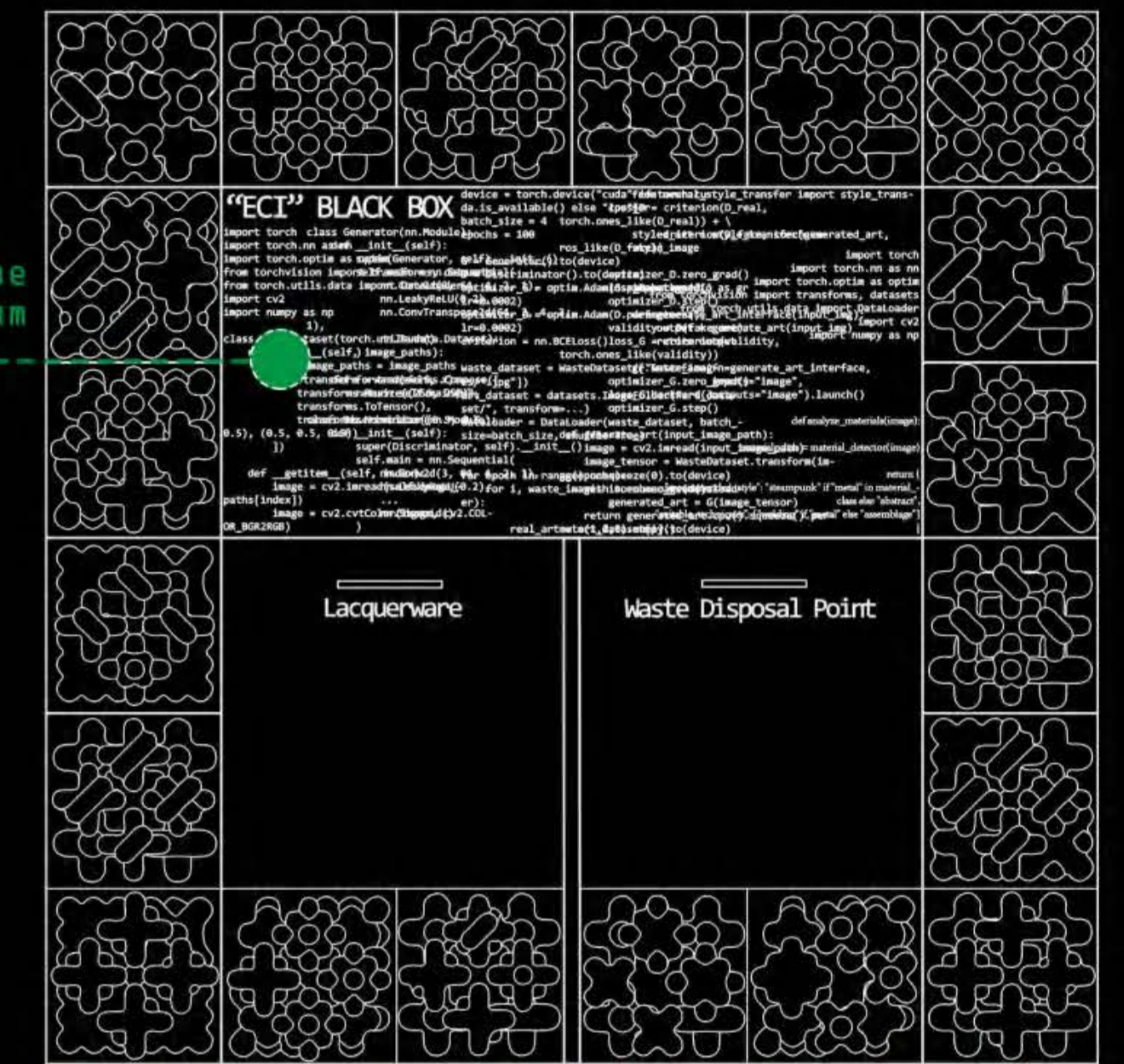
Portfolio PROP : BLACK BOX LacquerGAN: The Algorithm Behind ECI's "Sustainable" Art



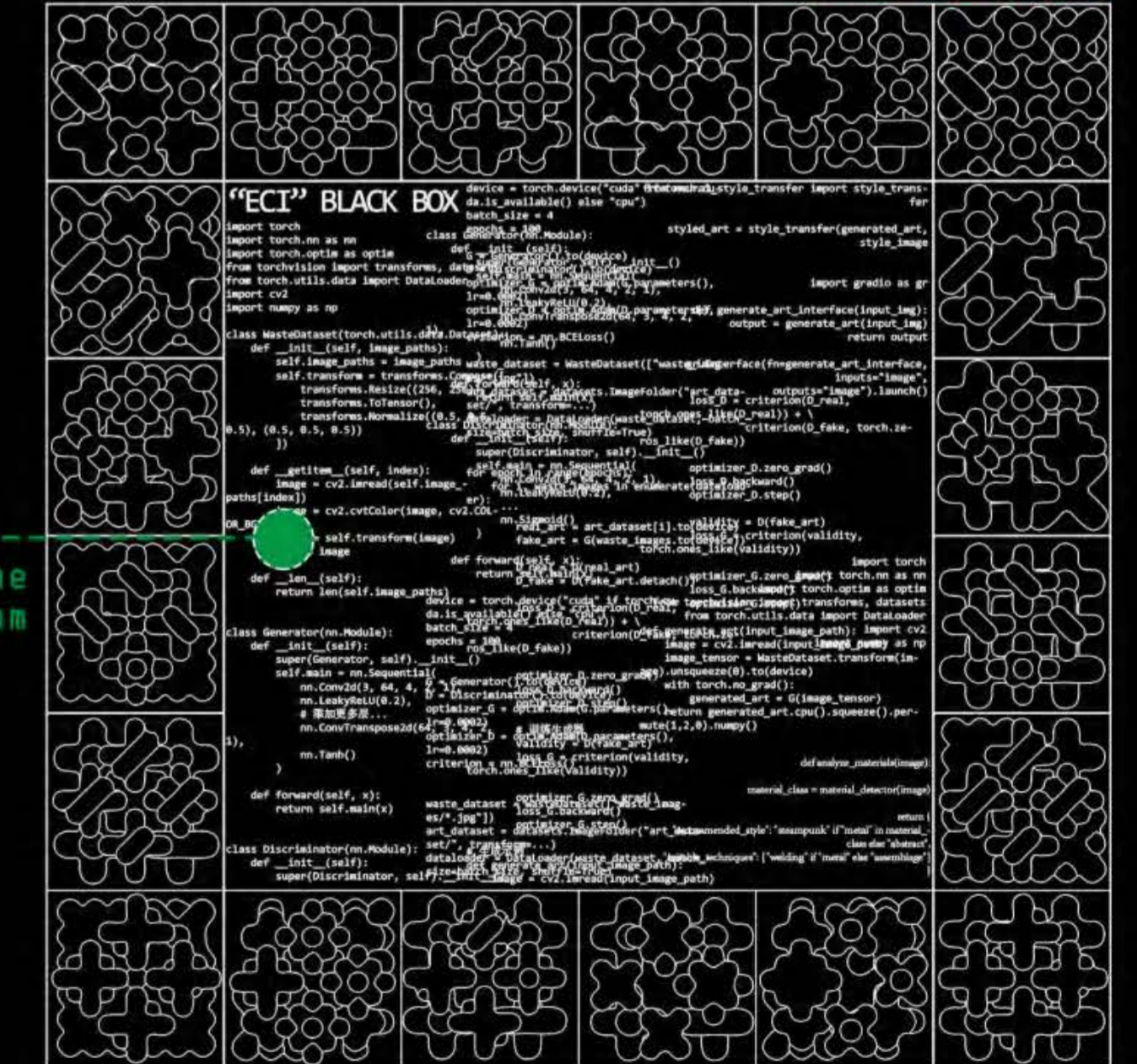
The placement surface of the black box

The surface texture of the black box: AI Algorithm

The surface texture of the black box: AI Algorithm



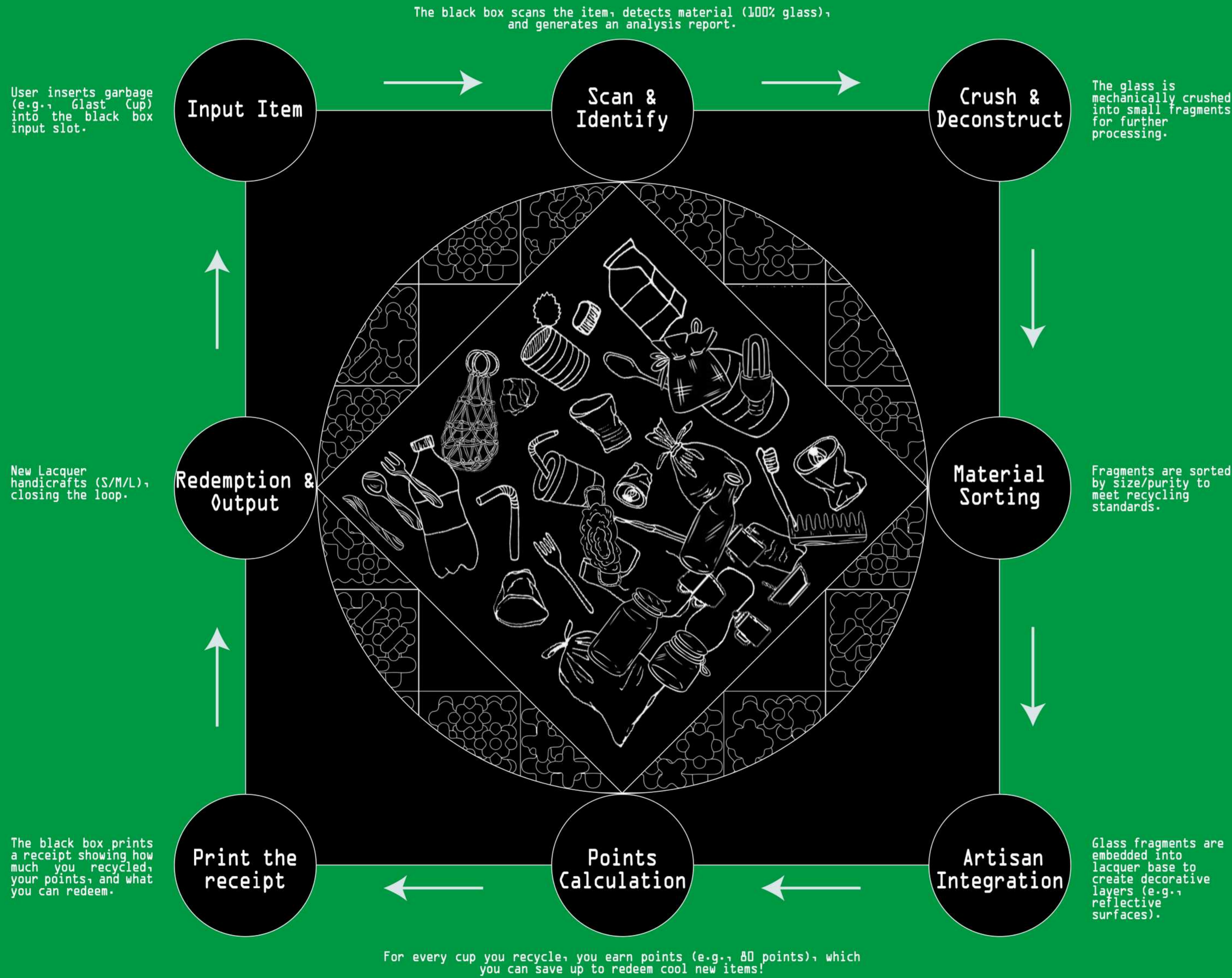
The pattern on the outer circle of the black box: A lacquer handicraft pattern with modular changes of AI Algorithm



The display surface of the black box

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Black Box
 PROP : BLACK BOX
 Black Box Material Recycling Process



Portfolio
 PROP : BLACK BOX
 Black Box Recycling Guide



Black Box
PROP : BLACK BOX RECEIPT

Portfolio
PROP : BLACK BOX PAPERLESS ANALYSIS



Item Name: Glass Cup
Scan Date: 2030-01-27
Analysis Number: #G123456789

Material Analysis:
100% Glass - Recyclable

Recycling Suggestions:
Glass: Recycled glass can be cut into small pieces and used as decorative elements in large lacquer crafts. For example, broken glass is embedded in large lacquer ornaments to form a bright decorative surface and bring a reflective effect.

Target Lacquerware Types:
Small items (e.g., earrings, rings): Requires 50-100g of material.
Medium-sized items (e.g., jewelry boxes, lampshades): Requires 500-1000g of material.
Large items (e.g., vases, sculptures): Requires 2-5kg of material.

Points System:
Current points: 80
To obtain:
Small items: 80 points
Medium-sized items: 150 points
Large items: 300 points

Collaborating Units:
Environmental Circular Institute (ECI)
Environmental Protection Agency
27/01/30 17:50
#G123456789



Item Name: Old Shoes
Scan Date: 2030-01-25
Analysis Number: #S123456789

Material Analysis:
40% leather or synthetic leather - recyclable/partially recyclable
30% rubber - recyclable
20% polyurethane foam - partially recyclable
10% fabric (e.g., polyester, cotton) - partially recyclable

Recycling Suggestions:
Leather: can be used as a surface decoration material to enhance aesthetic appeal and provide protection. Leather can wrap around the lacquerware frame, adding texture, making it suitable for small accessories.
polyurethane foam: can be recycled into eco-friendly artificial lacquer or molded for lacquerware and decorative pieces.

Target Lacquerware Types:
Leather: can be used as a surface decoration material to enhance aesthetic appeal and provide protection. Leather can wrap around the lacquerware frame, adding texture, making it suitable for small accessories.
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Medium-sized items (e.g., jewelry boxes, lampshades): Requires 500-1000g of material.
Large items (e.g., vases, sculptures): Requires 2-5kg of material.

Points System:
Current points: 15
To obtain:
Small items: 80 points
Medium-sized items: 150 points
Large items: 300 points

Collaborating Units:
Environmental Circular Institute (ECI)
Environmental Protection Agency
25/01/30 17:50
#S123456789



Item Name: Old Comb
Scan Date: 2030-05-25
Analysis Number: #C123456789

Material Analysis:
70% plastic (cellulose acetate) - partially recyclable
30% metal (decorative accents) - recyclable

Recycling Suggestions:
Plastic can be melted into molds for lacquerware bases; metal accents add structural support for items like hairpin stands.

Target Lacquerware:
Small: 50-100g (e.g., brooches)

Collaborating Units:
Environmental Circular Institute (ECI)
Environmental Protection Agency
25/05/30 17:50
#C123456789




Item Name: Plate
Scan Date: 2030-05-26
Analysis Number: #P123456789

Material Analysis:
80% ceramic - recyclable
20% glaze (silica-based) - partially recyclable

Recycling Suggestions:
Ceramic fragments create mosaic patterns on lacquerware surfaces; glaze enhances gloss in finishes.

Target Lacquerware:
Large: 2-5kg (e.g., wall art panels)

Collaborating Units:
Environmental Circular Institute (ECI)
Environmental Protection Agency
26/05/30 17:50
#P123456789



Item Name: Umbrella
Scan Date: 2030-01-27
Analysis Number: #U123456789

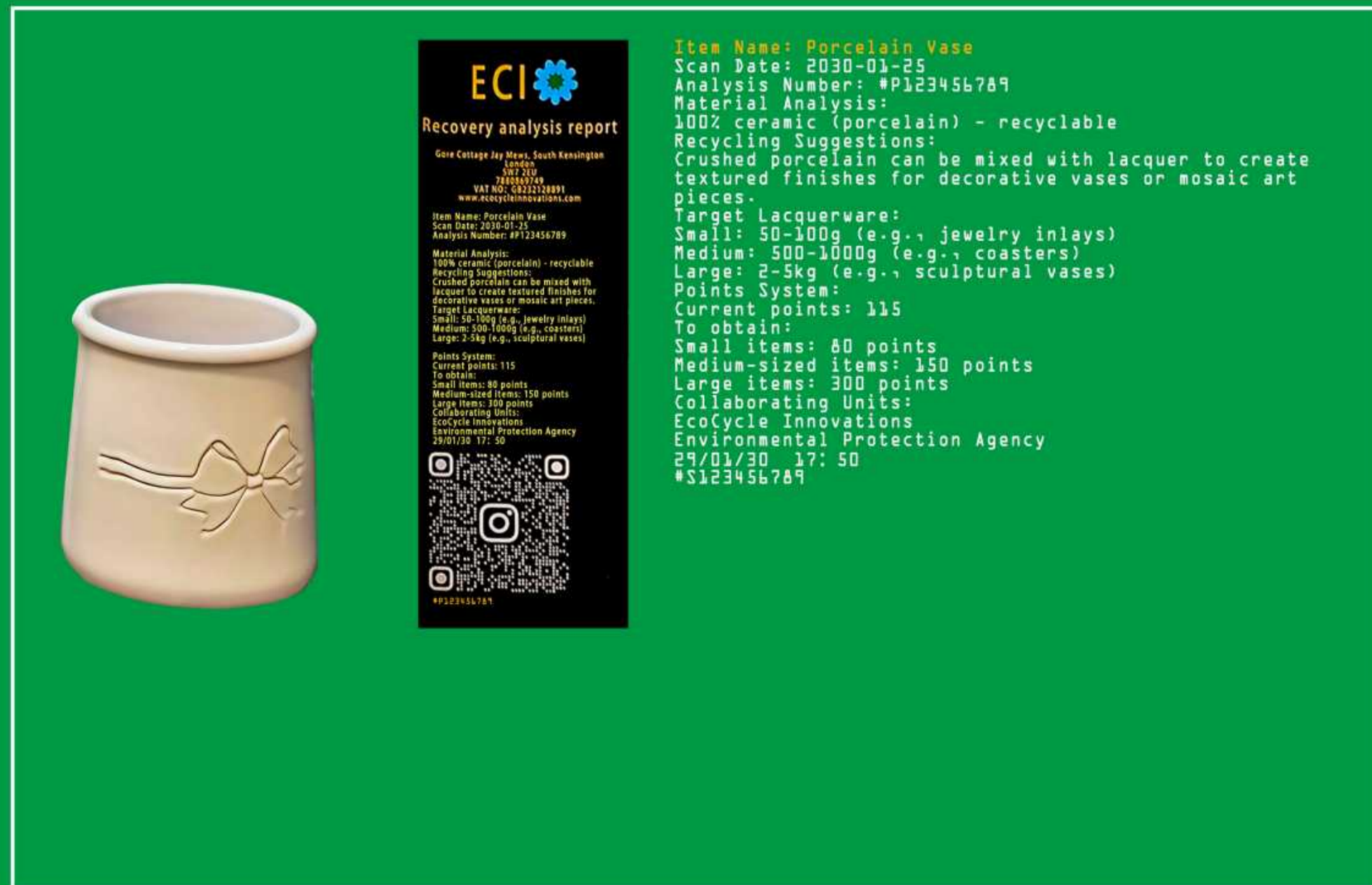
Material Analysis:
65% Aluminum Alloy - Recyclable
20% Thermoplastic Plastic - Partially Recyclable
10% Polyester Fiber - Partially Recyclable
5% Rubber - Partially Recyclable

Recycling Suggestions:
Aluminum Alloy: Recycle at metal points. Recycled aluminum can form the base or frame of lacquerware, offering durability, and can also be polished for decorative textures.
Thermoplastic Plastic: Can be recycled into eco-friendly artificial lacquer or molded for lacquerware and decorative pieces.
Polyester Fiber: Used as a base for lacquerware, it becomes strong and durable once coated.
Rubber: After heat treatment, it can be used for anti-slip pads on the bottom of lacquerware for added stability.

Target Lacquerware Types:
Small items (e.g., earrings, rings): Requires 50-100g of material.
Medium-sized items (e.g., jewelry boxes, lampshades): Requires 500-1000g of material.
Large items (e.g., vases, sculptures): Requires 2-5kg of material.

Points System:
Current points: 30
To obtain:
Small items: 80 points
Medium-sized items: 150 points
Large items: 300 points

Collaborating Units:
Environmental Circular Institute (ECI)
Environmental Protection Agency
27/01/30 17:50
#U123456789



Item Name: Porcelain Vase
Scan Date: 2030-01-25
Analysis Number: #V123456789

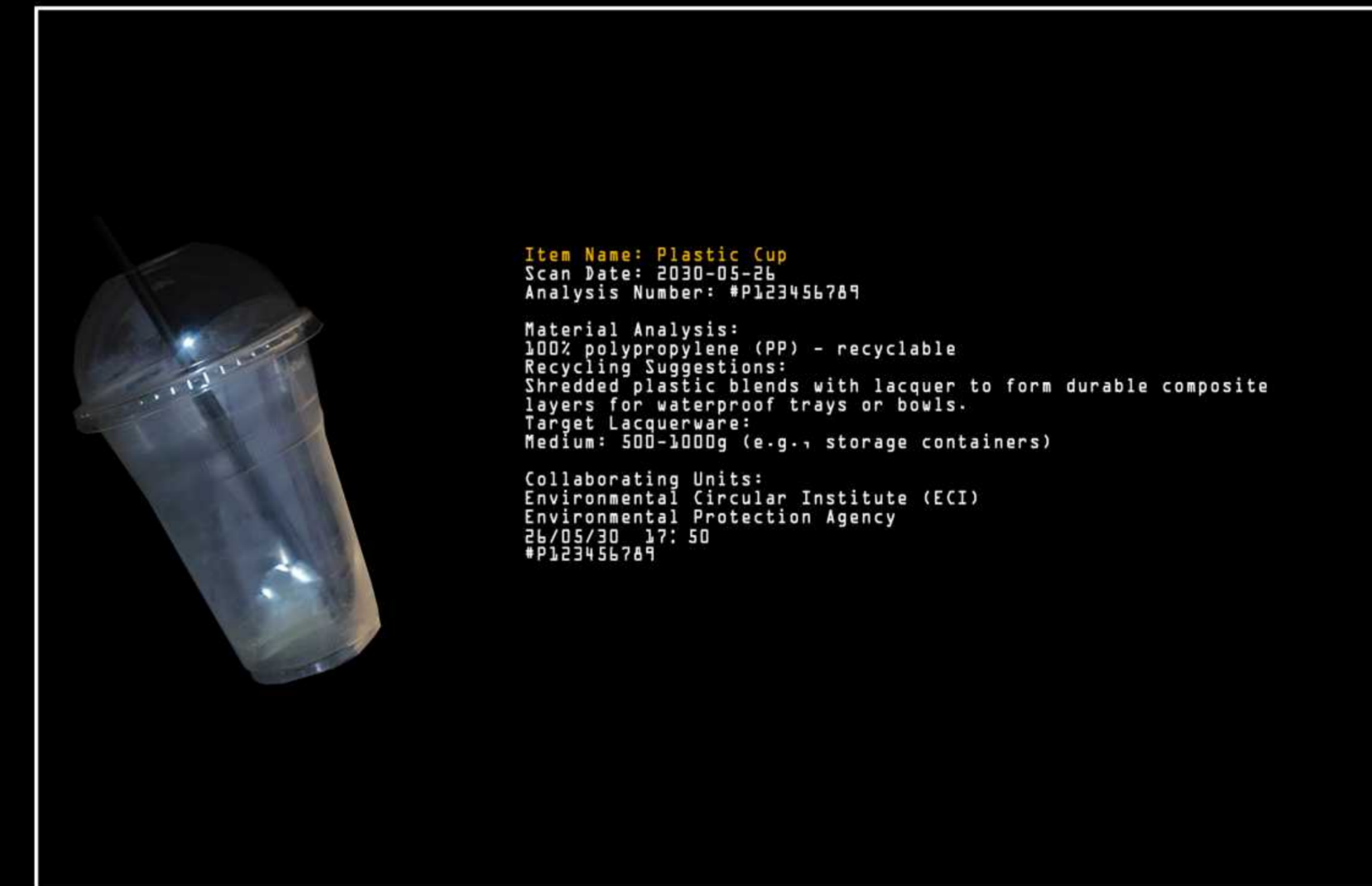
Material Analysis:
100% ceramic (porcelain) - recyclable

Recycling Suggestions:
Crushed porcelain can be mixed with lacquer to create textured finishes for decorative vases or mosaic art pieces.

Target Lacquerware:
Small: 50-100g (e.g., jewelry inlays)
Medium: 500-1000g (e.g., coasters)
Large: 2-5kg (e.g., sculptural vases)

Points System:
Current points: 115
To obtain:
Small items: 80 points
Medium-sized items: 150 points
Large items: 300 points

Collaborating Units:
EcoCycle Innovations
Environmental Protection Agency
25/01/30 17:50
#V123456789



Item Name: Plastic Cup
Scan Date: 2030-05-26
Analysis Number: #P123456789

Material Analysis:
100% polypropylene (PP) - recyclable

Recycling Suggestions:
Shredded plastic blends with lacquer to form durable composite layers for waterproof trays or bowls.

Target Lacquerware:
Medium: 500-1000g (e.g., storage containers)

Collaborating Units:
Environmental Circular Institute (ECI)
Environmental Protection Agency
26/05/30 17:50
#P123456789



Item Name: Unusable Charging Cable
Scan Date: 2030-05-26
Analysis Number: #U123456789

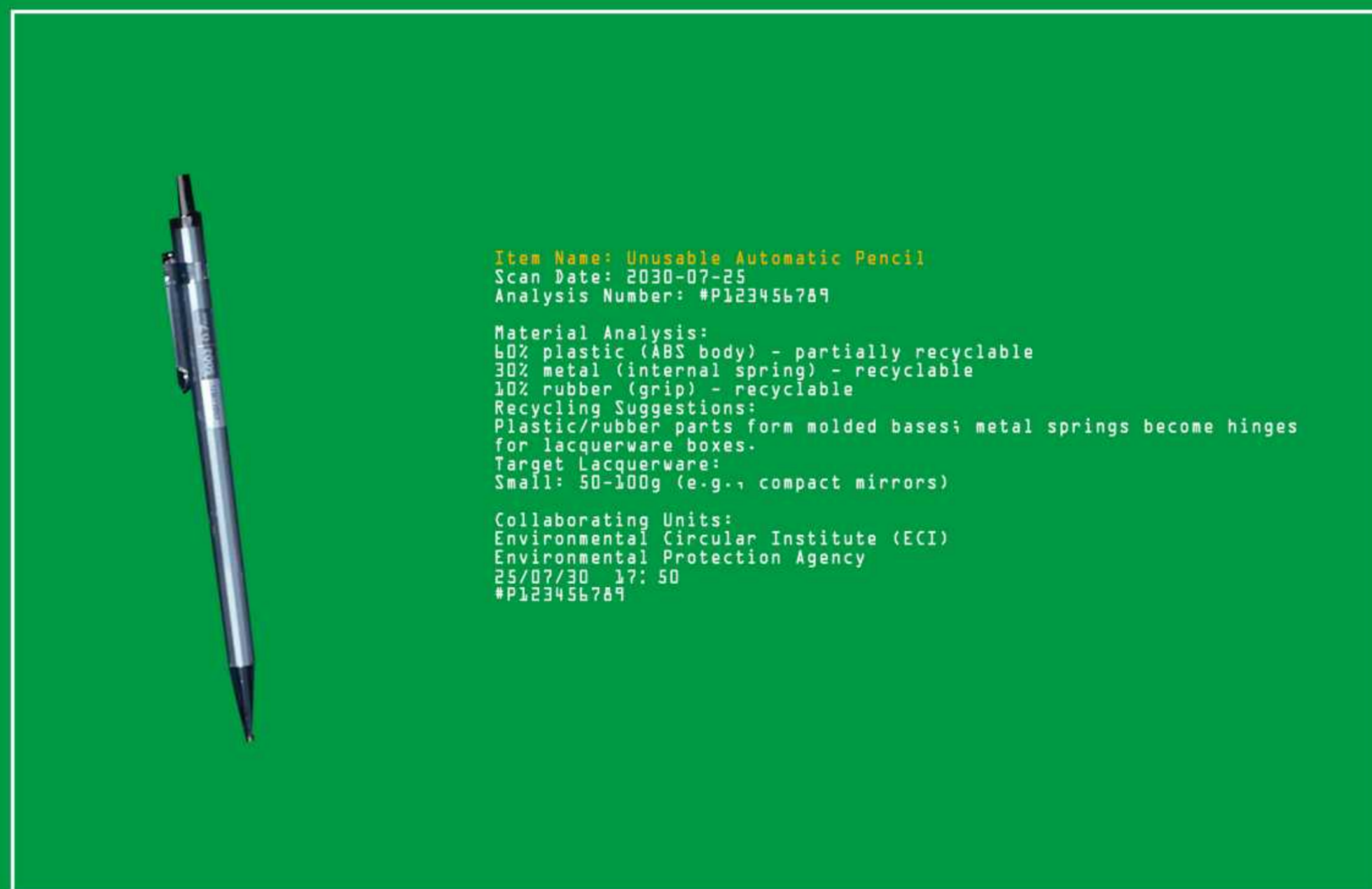
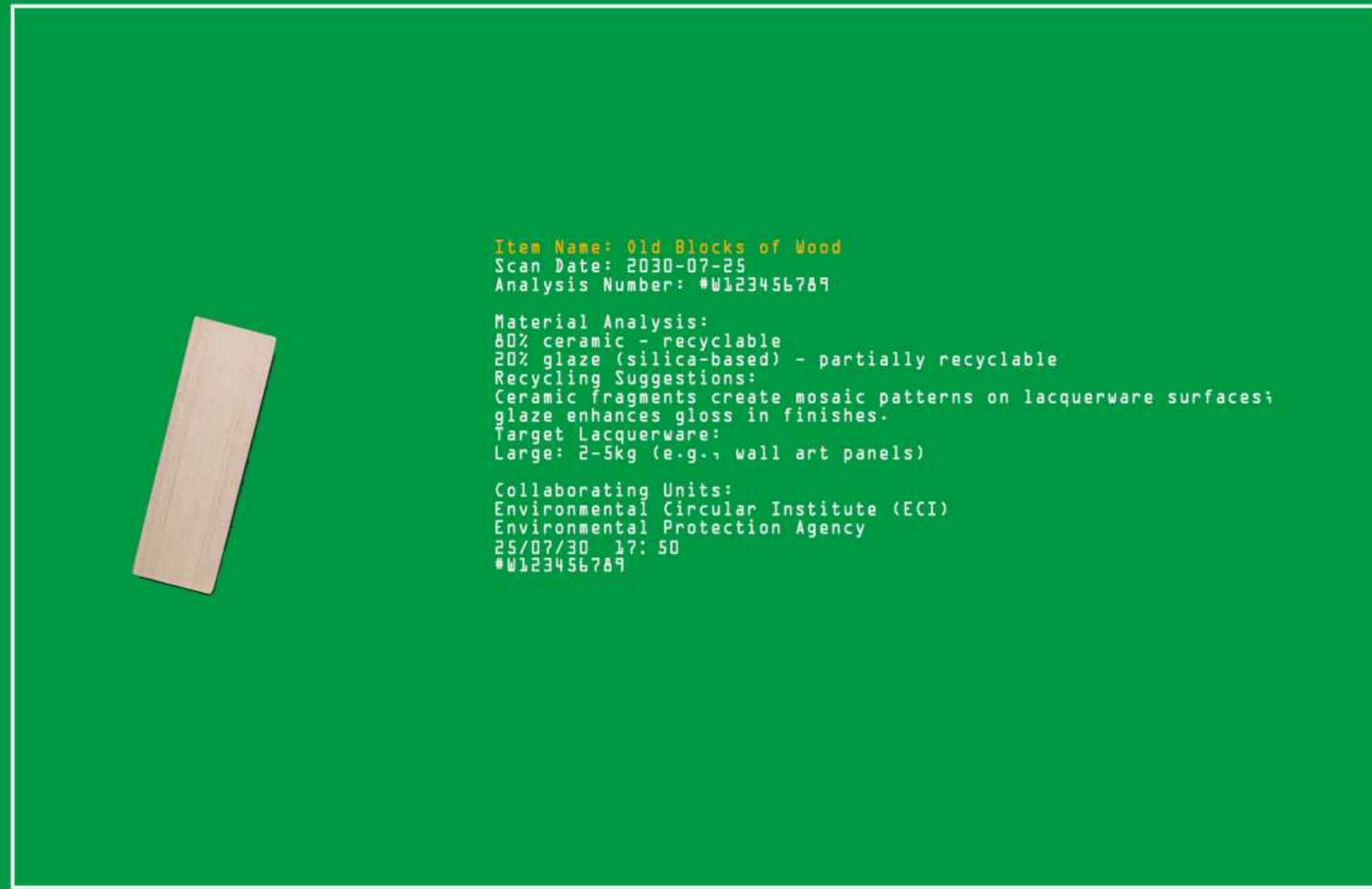
Material Analysis:
50% PVC (insulation) - partially recyclable
40% copper (wires) - recyclable
10% rubber (connectors) - recyclable

Recycling Suggestions:
Copper wires shape decorative filigree; PVC/rubber layers add grip to lacquerware bases.

Target Lacquerware:
Small: 50-100g (e.g., pendant details)

Collaborating Units:
Environmental Circular Institute (ECI)
Environmental Protection Agency
26/05/30 17:50
#U123456789

Black Box
 PROP : BLACK BOX PAPERLESS ANALYSIS



Portfolio
 PROP : LACQUER ARTIFACTS
 The evolution of Lacquer Artifacts in AI Algorithm

Thomas' handcrafted lacquer works, experiencing the power of nature - sunflowers.

Over 200 on-site photos of sunflowers under different lighting conditions (morning dewdrops, midday blooming, and dusk closing)
 Collect petal specimens; Record biological characteristics such as the direction of the veins and the curling arc of the edges

Process iteration → subtractive molding
 Gradually giving up color and inlay, it solely relies on the variation in the thickness of the paint layer to capture the flow of light and shadow throughout the day
 Manual intervention only exists in: control of the number of paint layers + key knife position landing points
 Return 80% of the creative rights to nature (humidity/sunlight/paint flow)

The pattern of the plagiarized work by Black Box Thomas has been superimposed and evolved through algorithms.

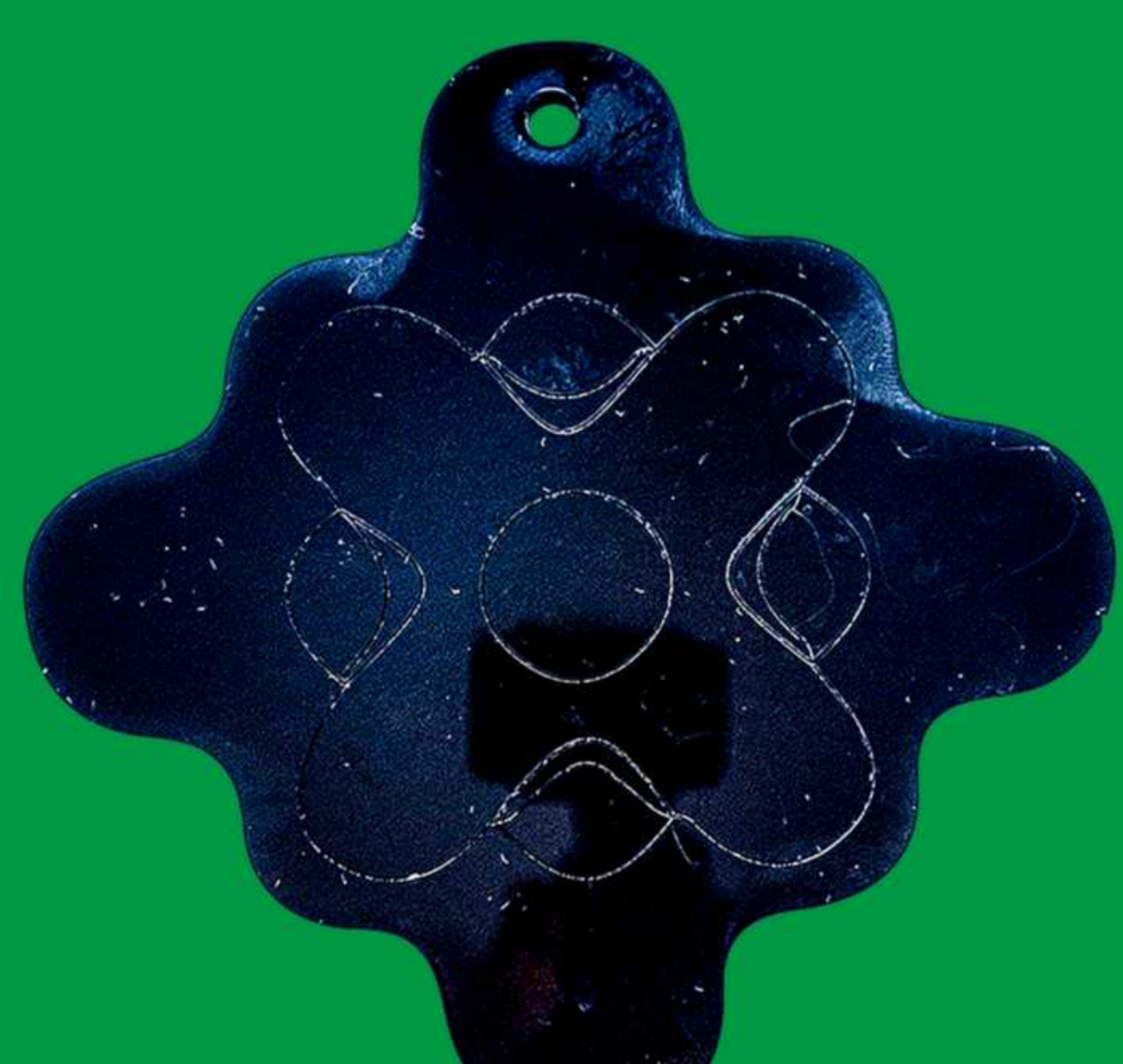
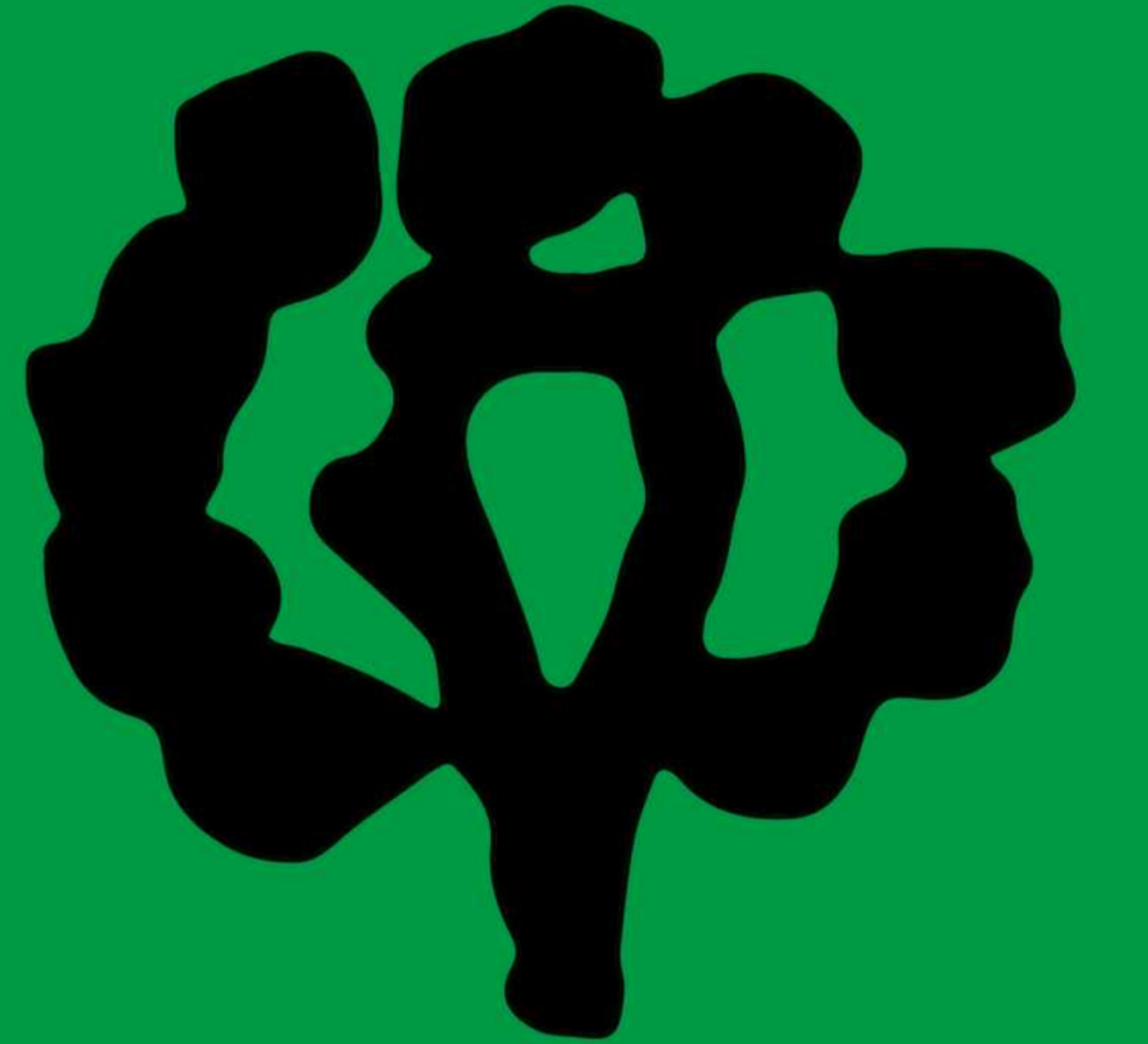
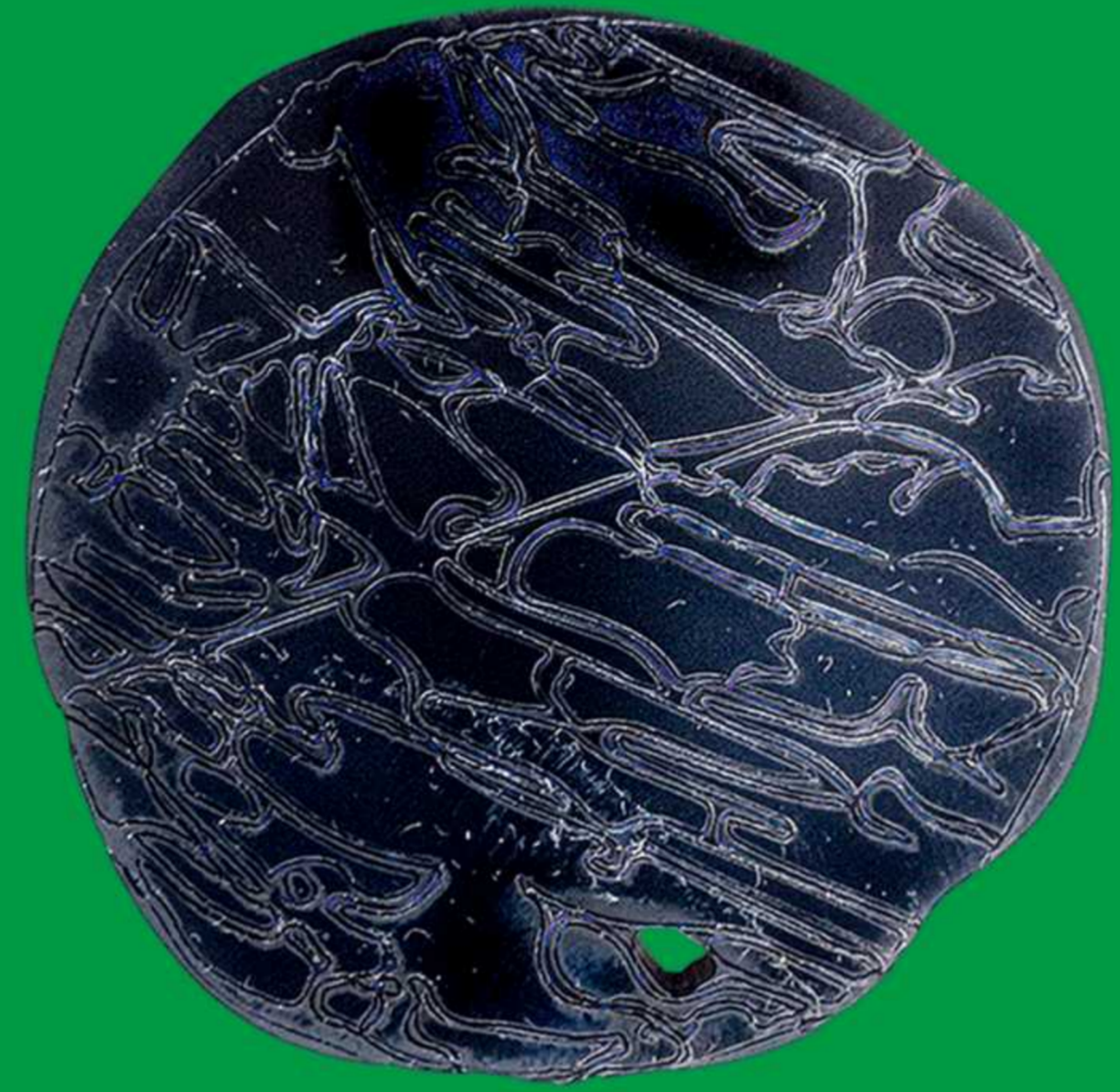
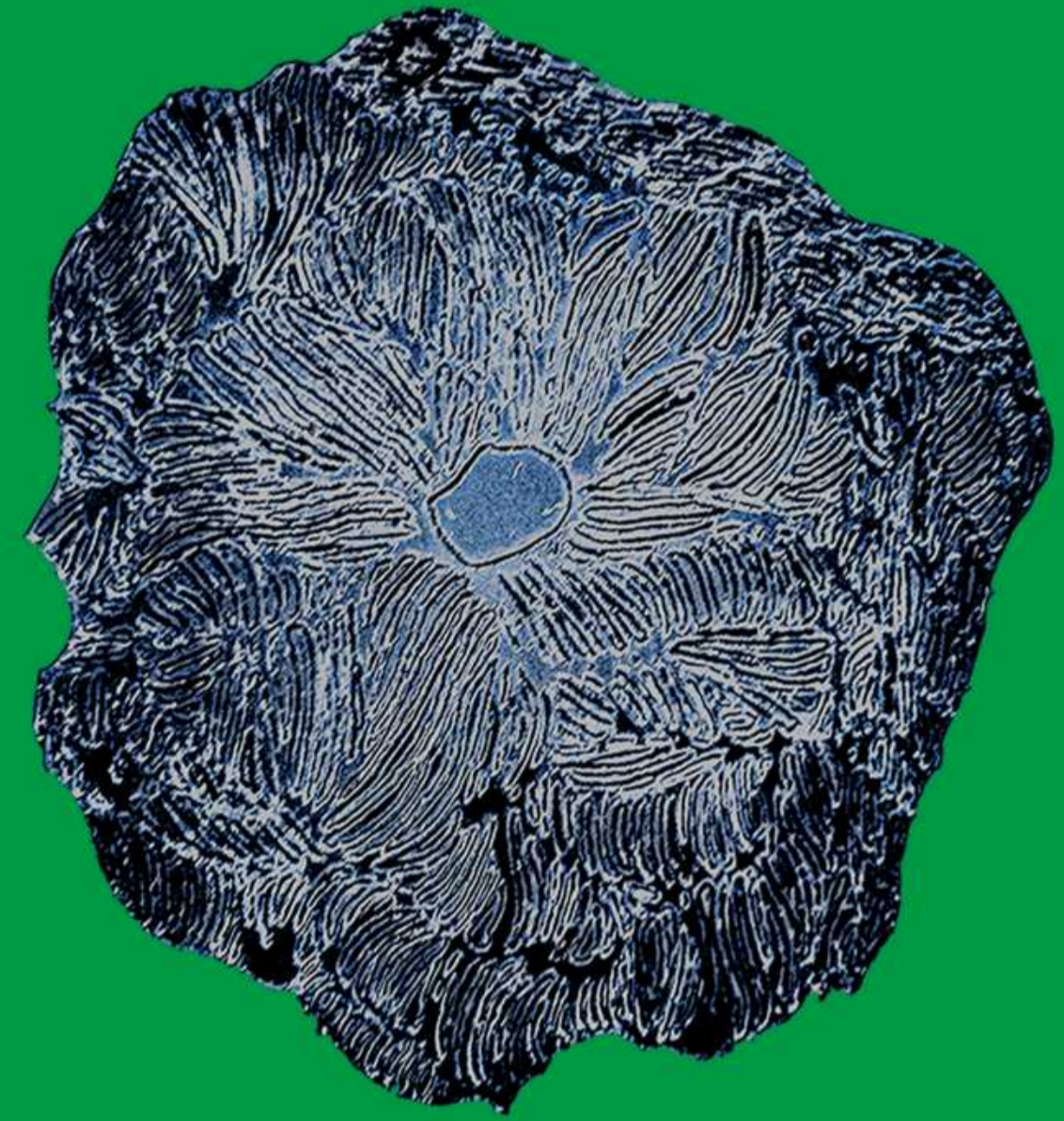
Thomas designed the pattern using the outline of a sunflower.

The Black box plagiarized the pattern of Thomas' work and used algorithms to superimpose and evolve it.

Thomas designed the pattern using the outline of a sunflower.

The Black box plagiarized the pattern of Thomas' work and used algorithms to superimpose and evolve it.

High-resolution scanning → Generate vector paths
 The algorithm simplifies the symbiotic relationship between nature and humanity into numerical weights, losing the randomness caused by humidity/temperature.
 Algorithm pollution (mixed multi-source data washing) "New work" = sunflower knife marks × Gerbera petals + lacquerware make-e coordinates × 0.7 + noise factor



Black Box
FILM PRODUCTION
Site selection: Notting Hill

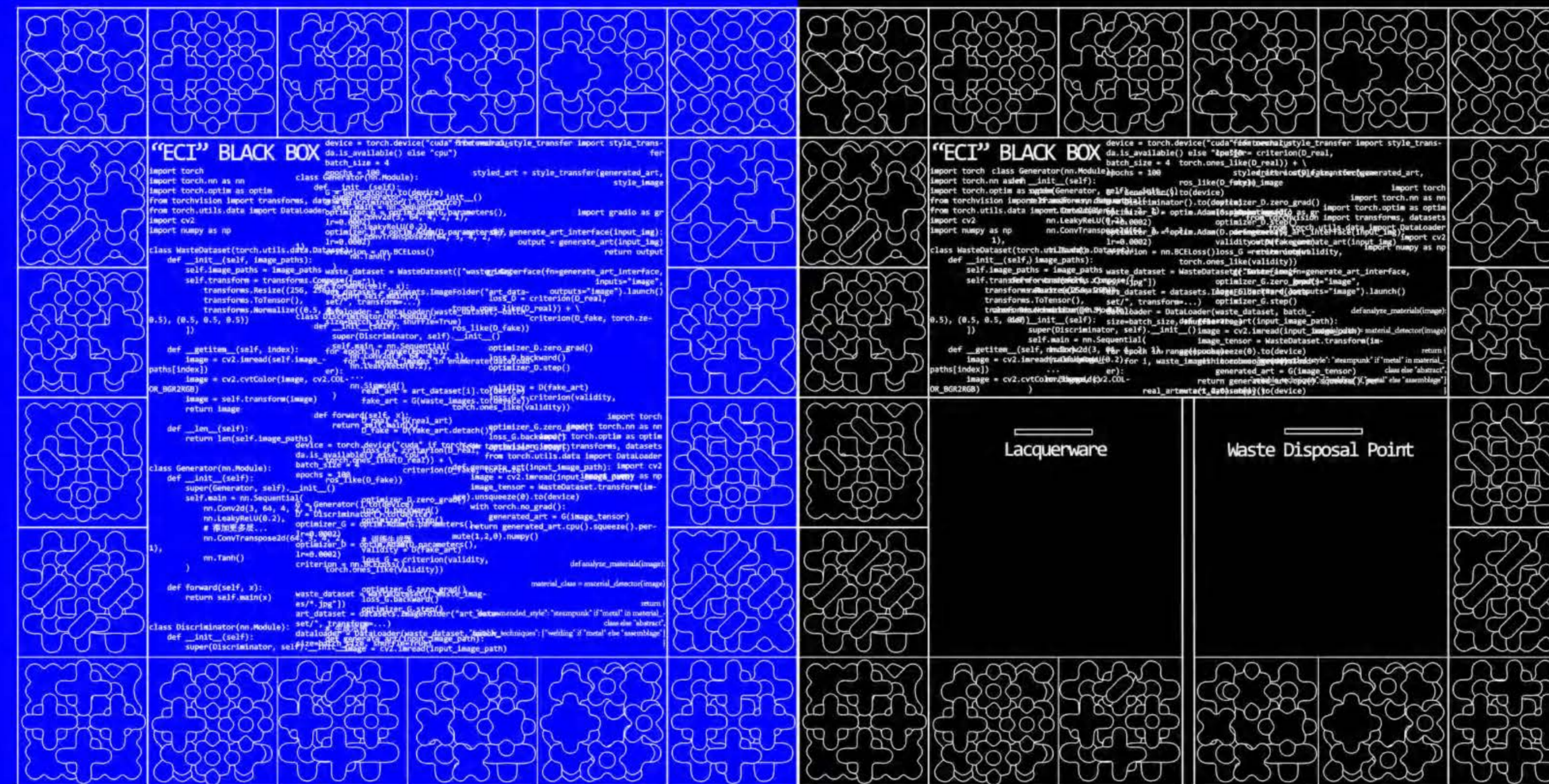
Portfolio
FILM PRODUCTION
Site selection: Notting Hill



Once a sanctuary for handmade art, Notting Hill neighborhood has now become ECI's testing ground. The Black Box infiltrates domestic spaces, replacing human warmth with machine efficiency.

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The Phantom of the Opera
 Incorporating the stage aesthetics of The Phantom of the Opera and the cinematic technique of blending reality with artifice: we enhance the futuristic tone and the "technology vs. tradition" theme. Live-action performances are preserved, along with physical props (e.g., the Black Box device, lacquerware tools). The artificial backdrops' "unreal" quality mirrors the artifice of the Black Box's mass-produced art.

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Source: <https://pin.it/5dR5BbPss> | The Phantom of the Opera

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Black Box
FILM PRODUCTION

Movie scene
artificial backdrops-A resident's home in Notting Hill

Portfolio

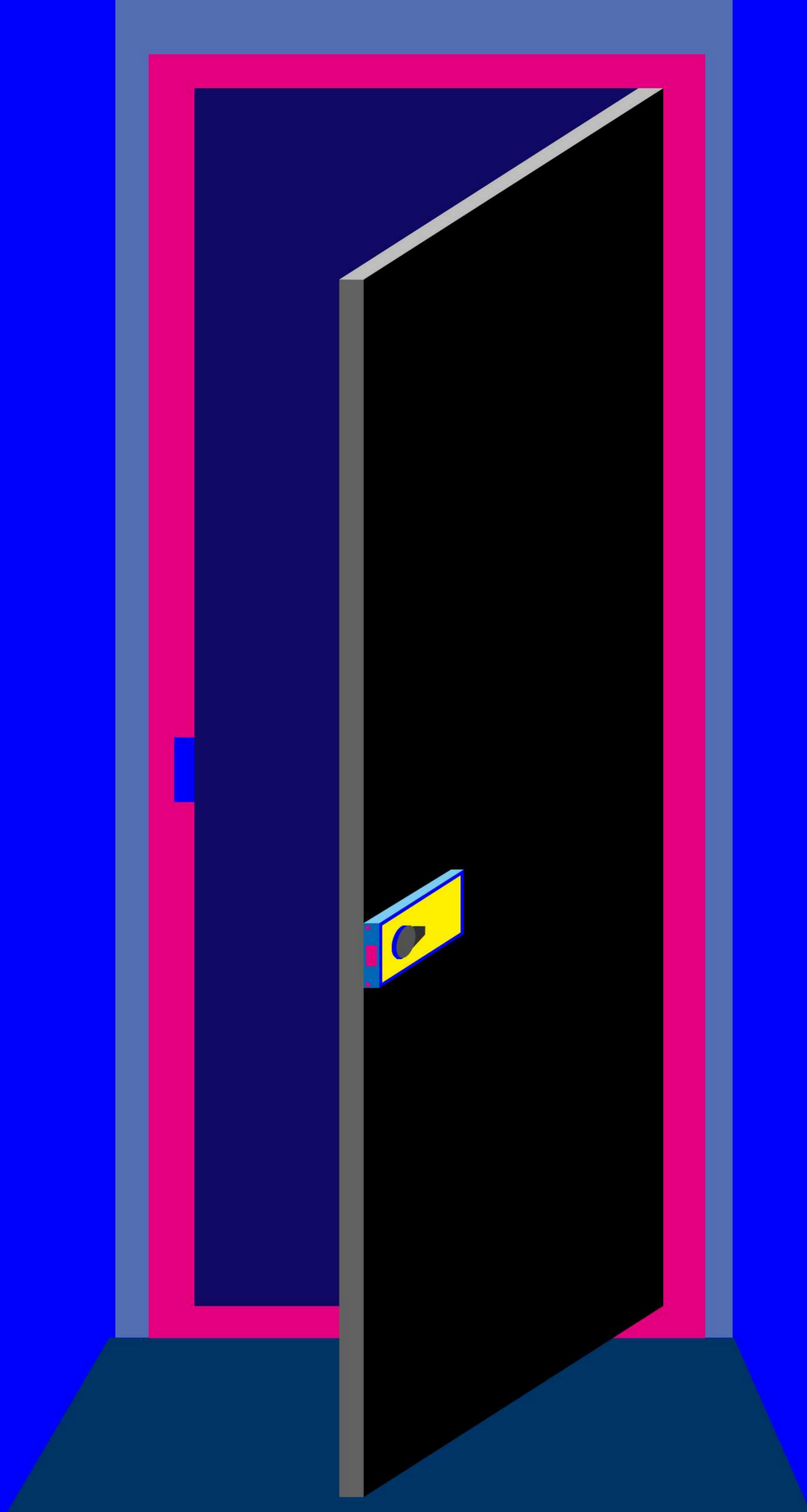


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Black Box
FILM PRODUCTION
Movie scene
Artificial Backdrops-Open the door

Portfolio



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Black Box
FILM PRODUCTION

Movie scene
Artificial Backdrops- Thomas and Lily's Home

Portfolio



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Black Box
FILM PRODUCTION

Movie scene
Artificial Backdrops- Thomas and Lily's Home

Portfolio



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Black Box
FILM PRODUCTION

Movie scene

Artificial Backdrops- Thomas and Lily's Home

Portfolio



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Black Box
FILM PRODUCTION
Movie scene
Artificial Backdrops- ECI

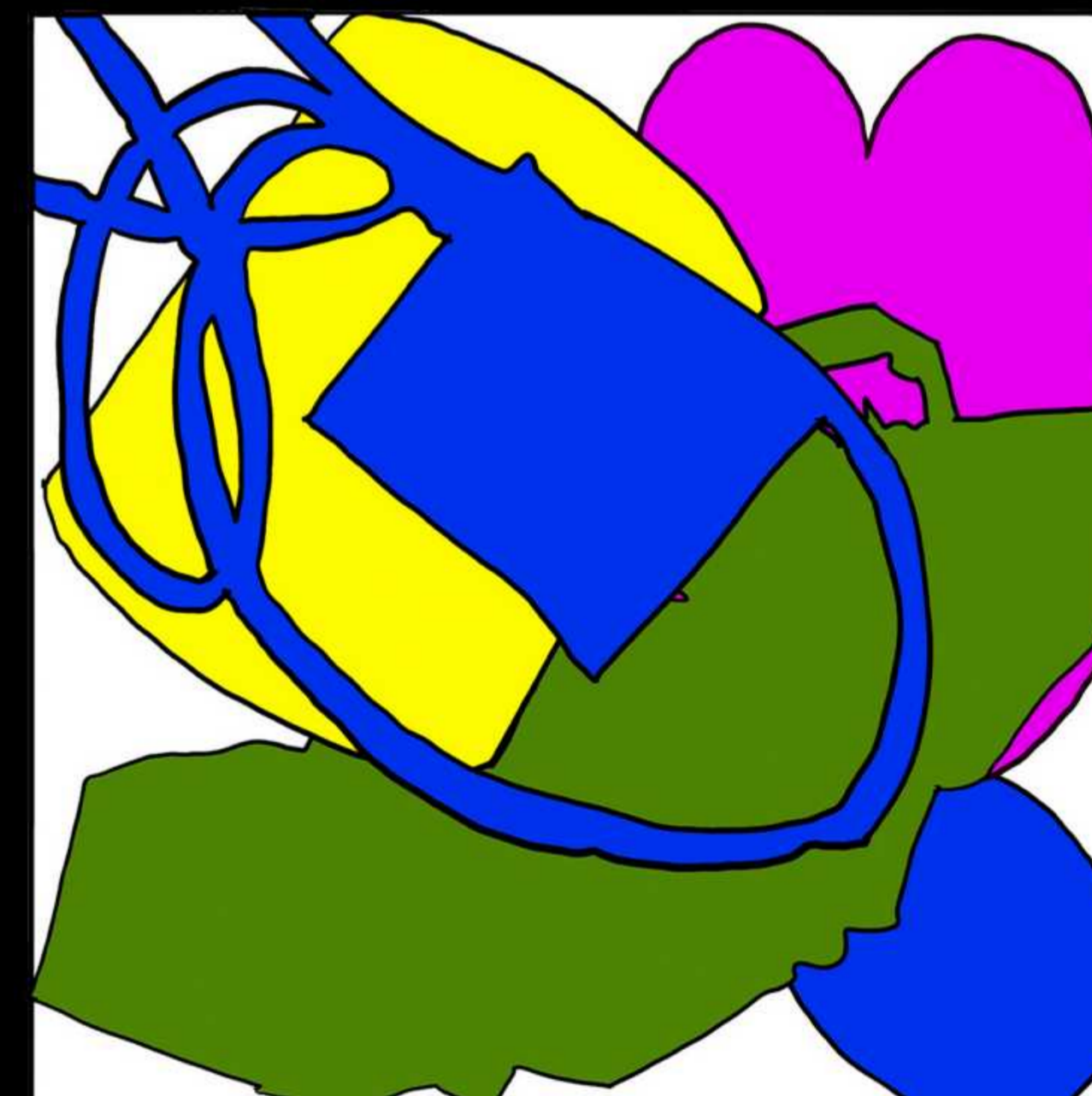
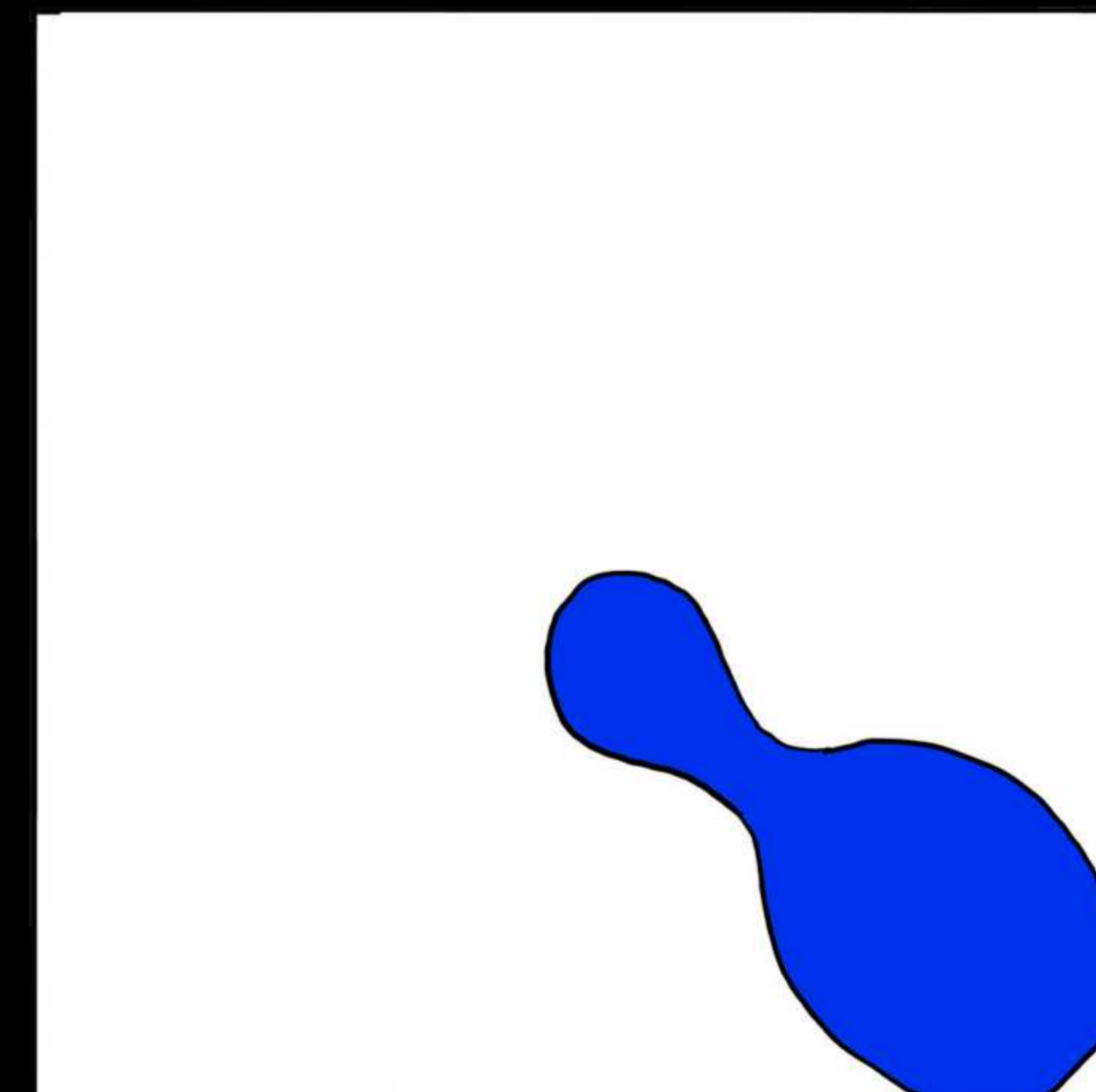
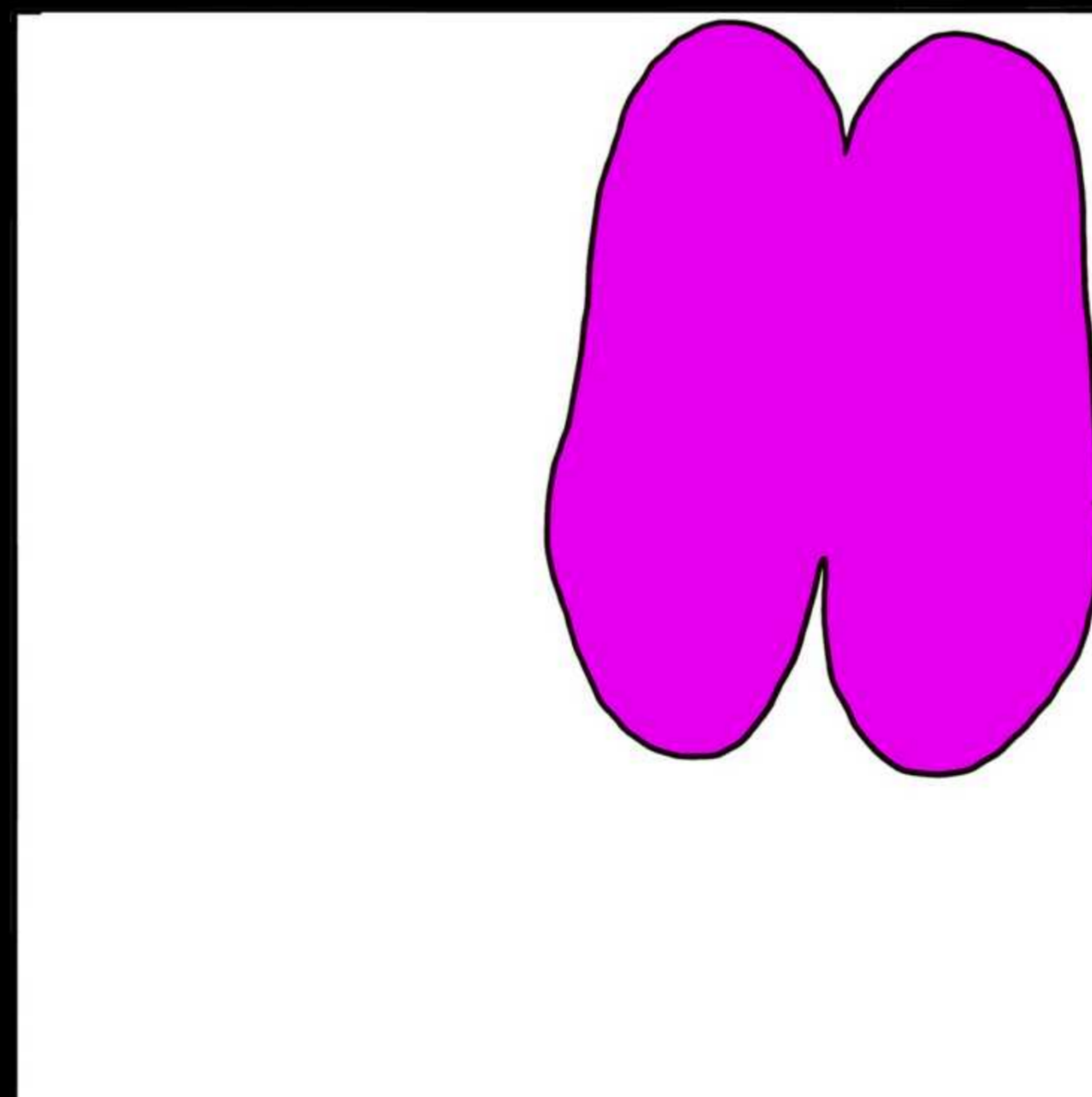
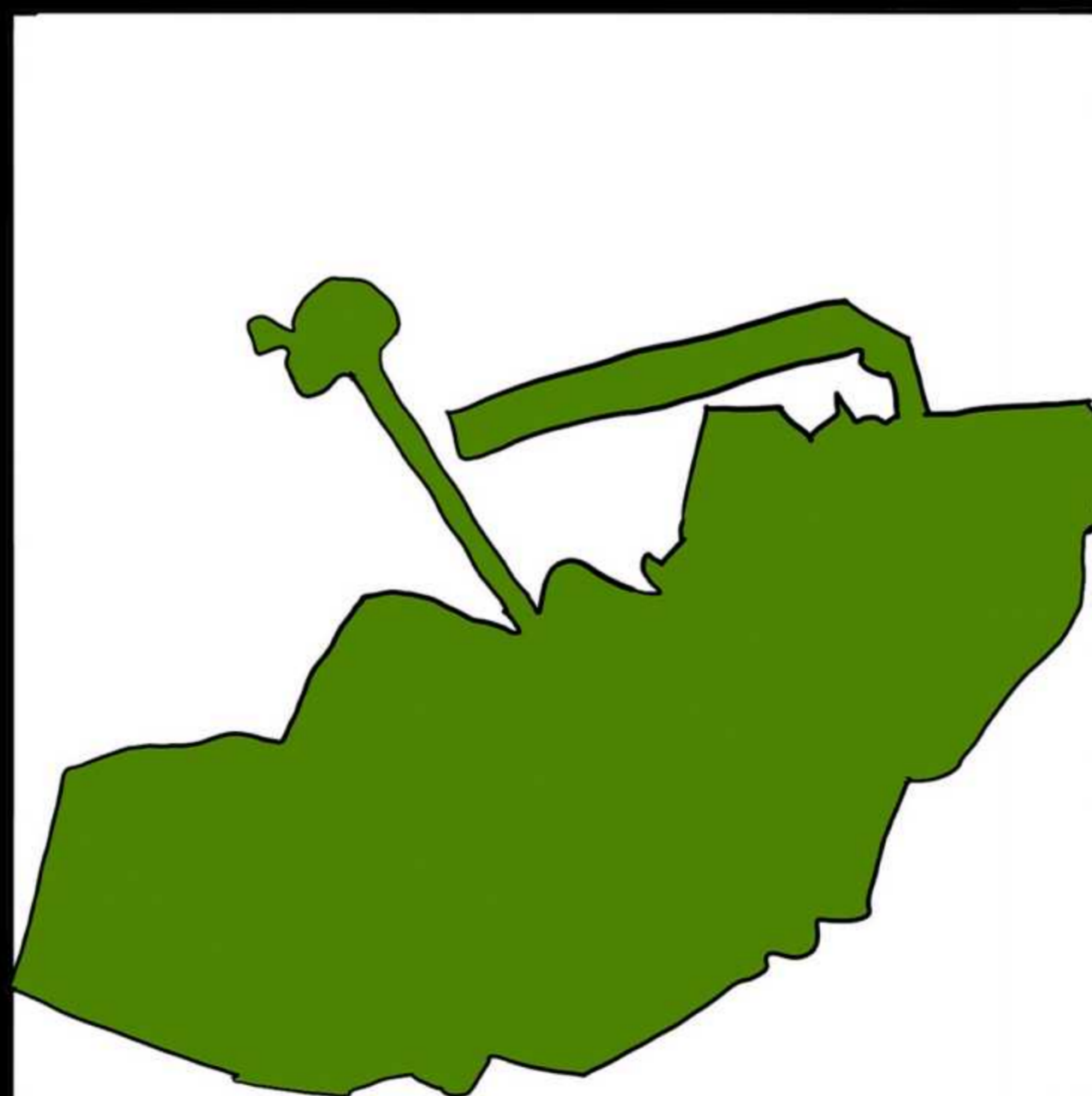
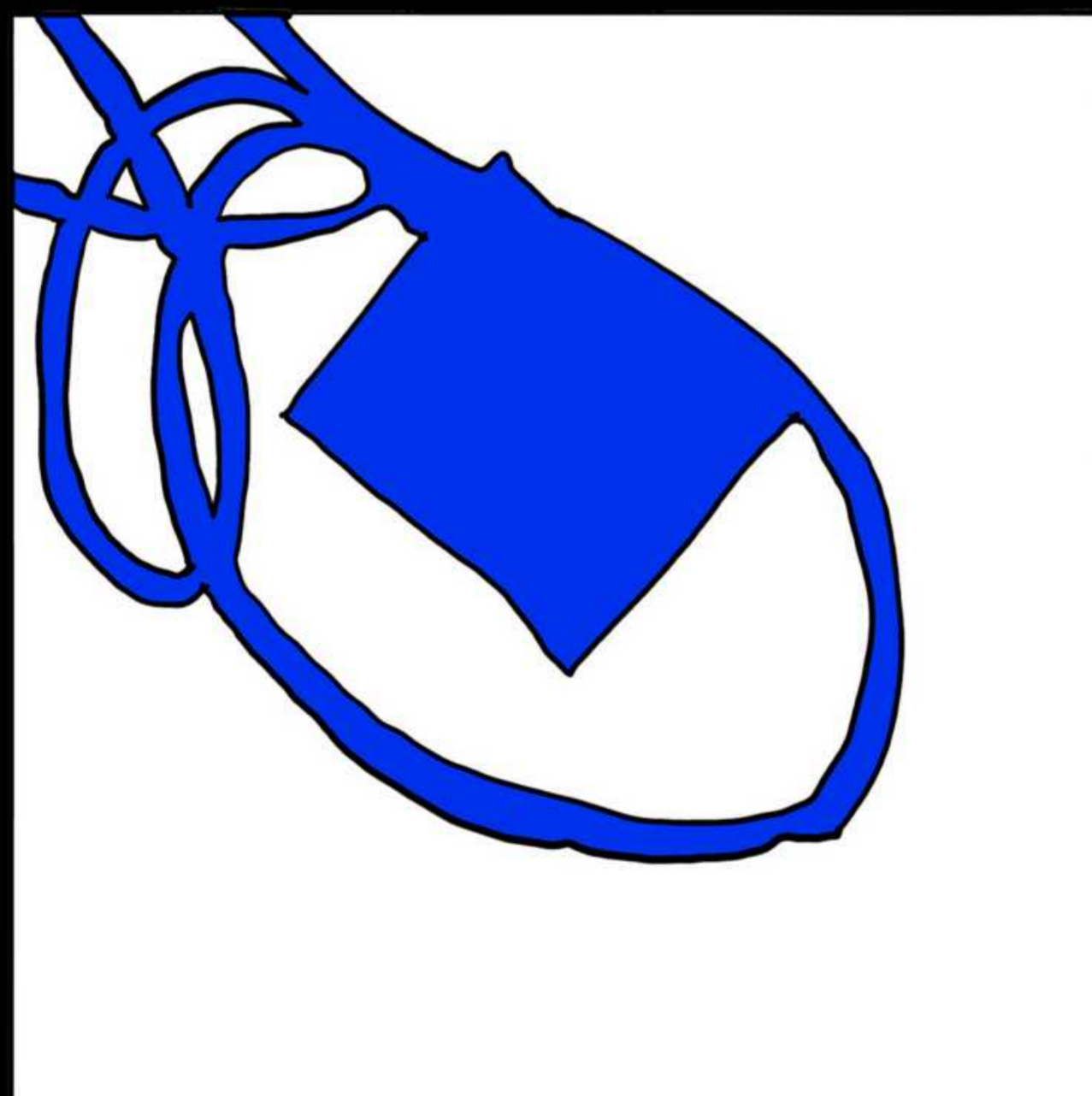
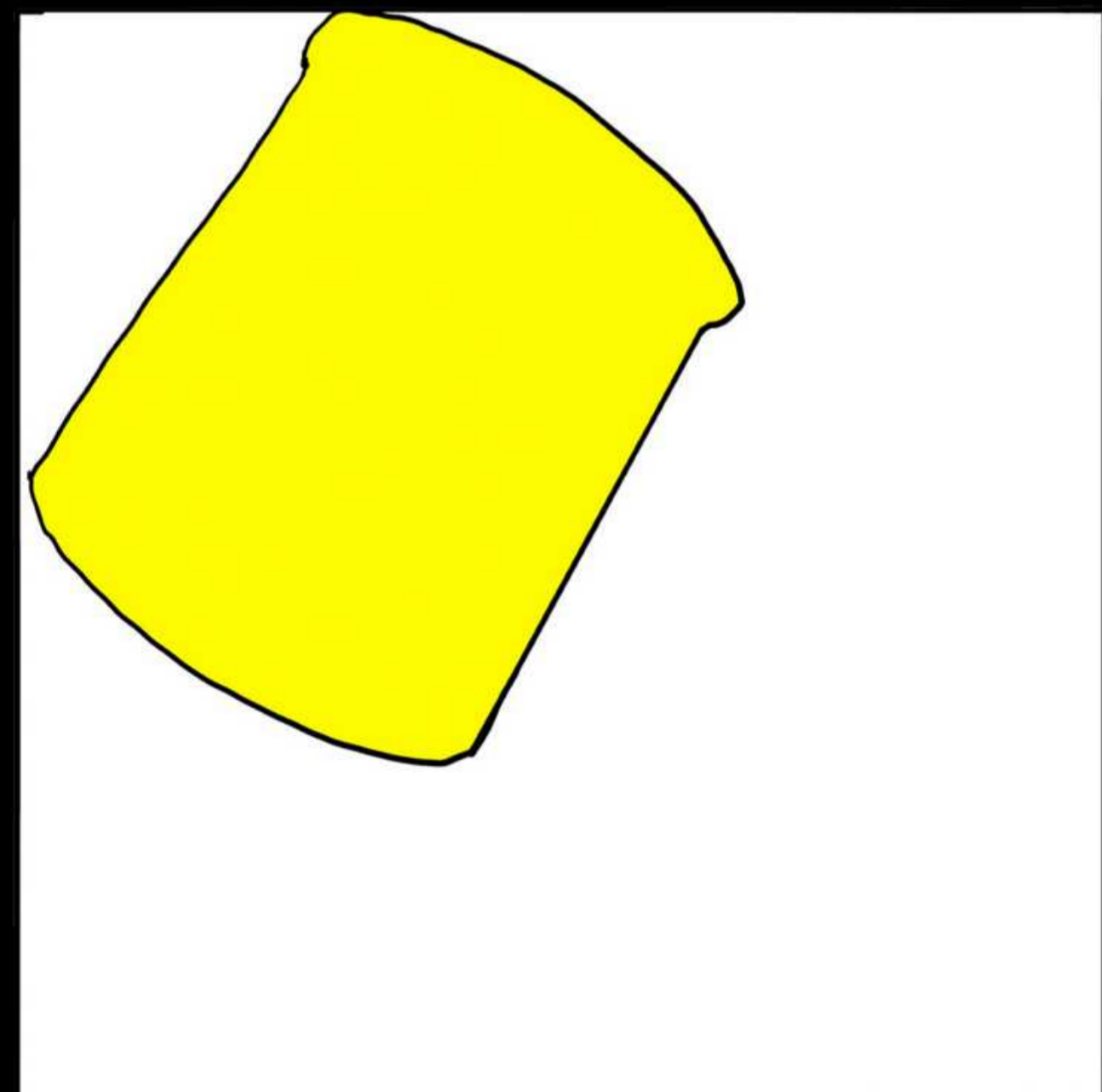
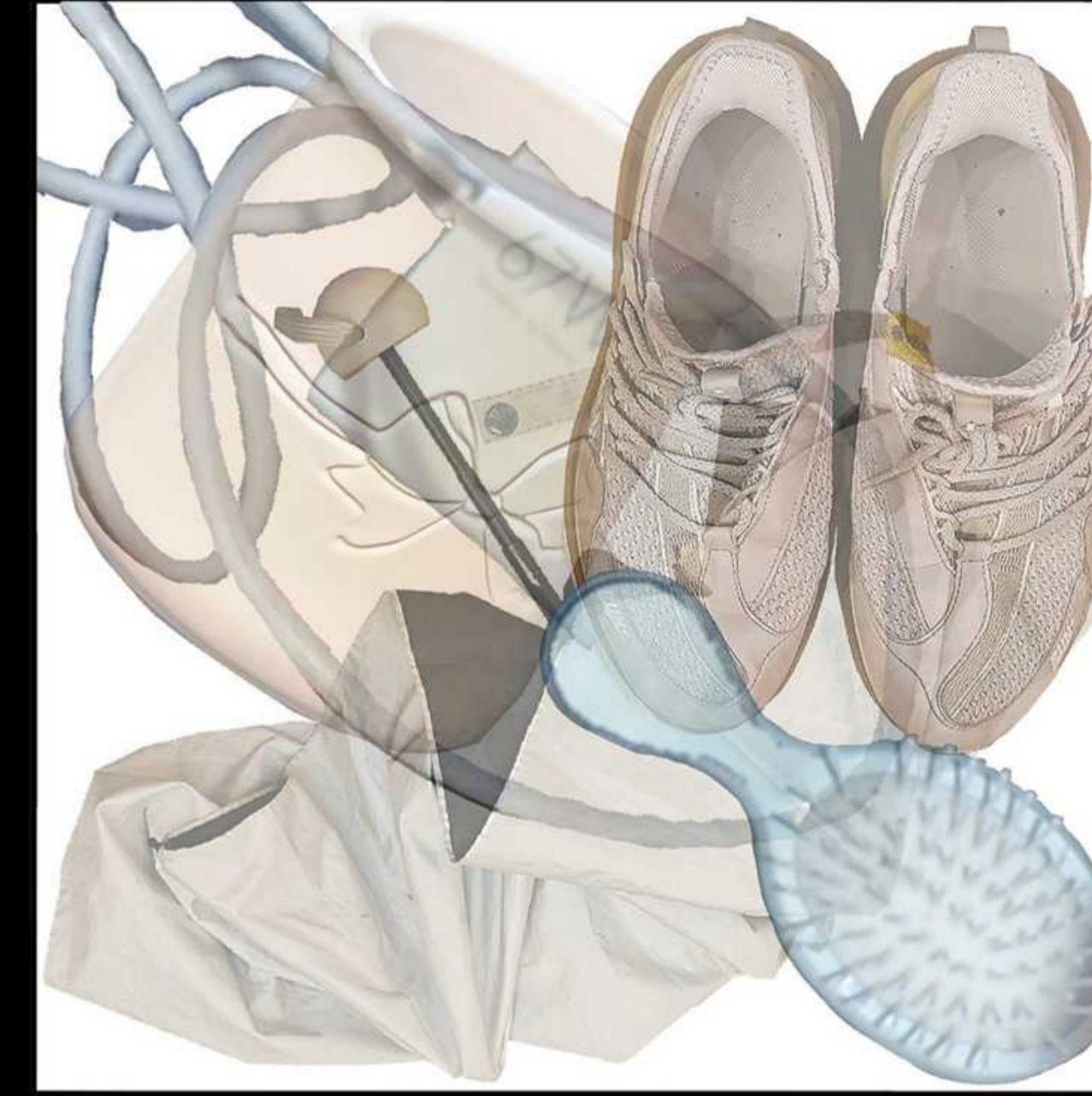
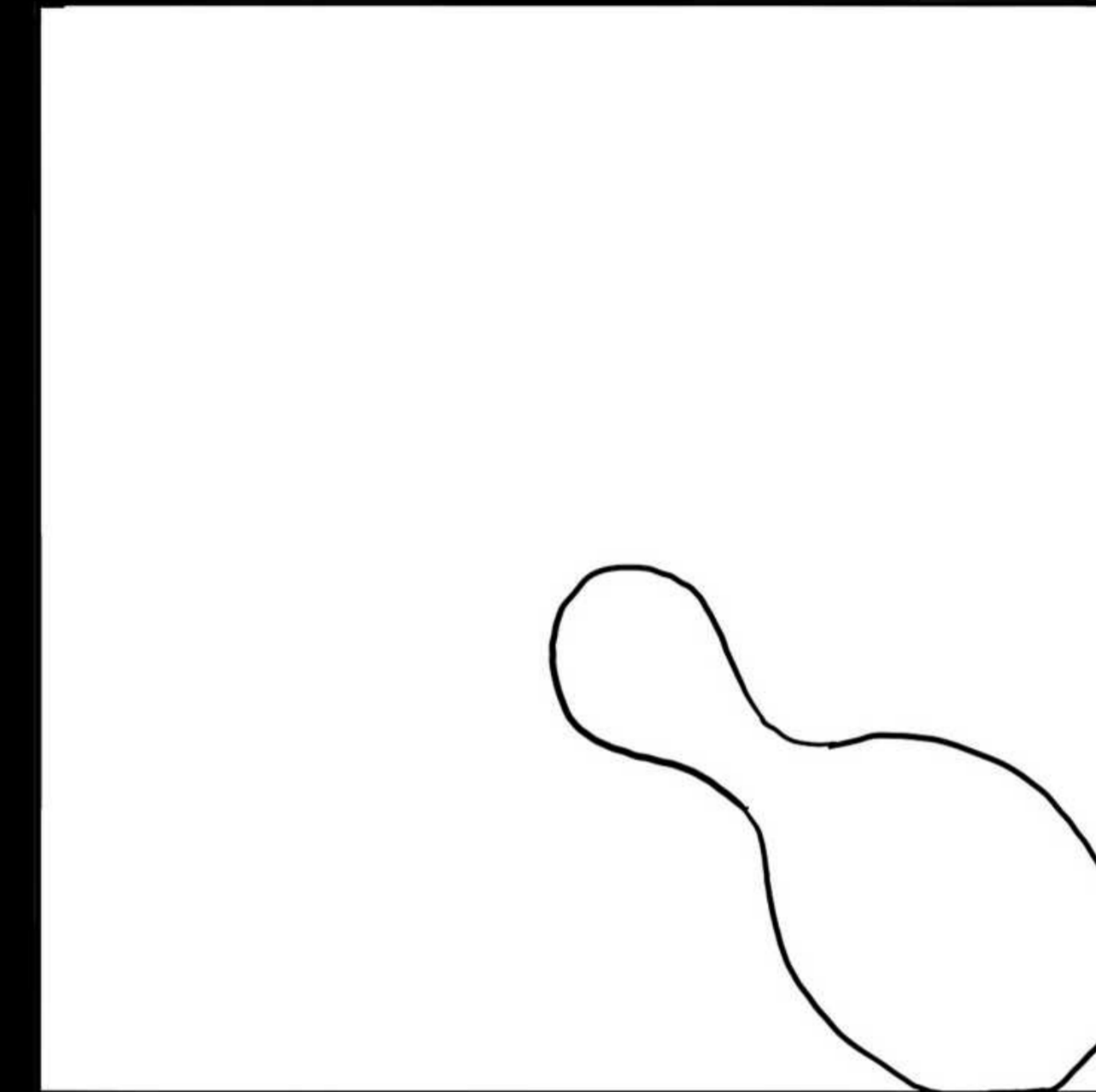
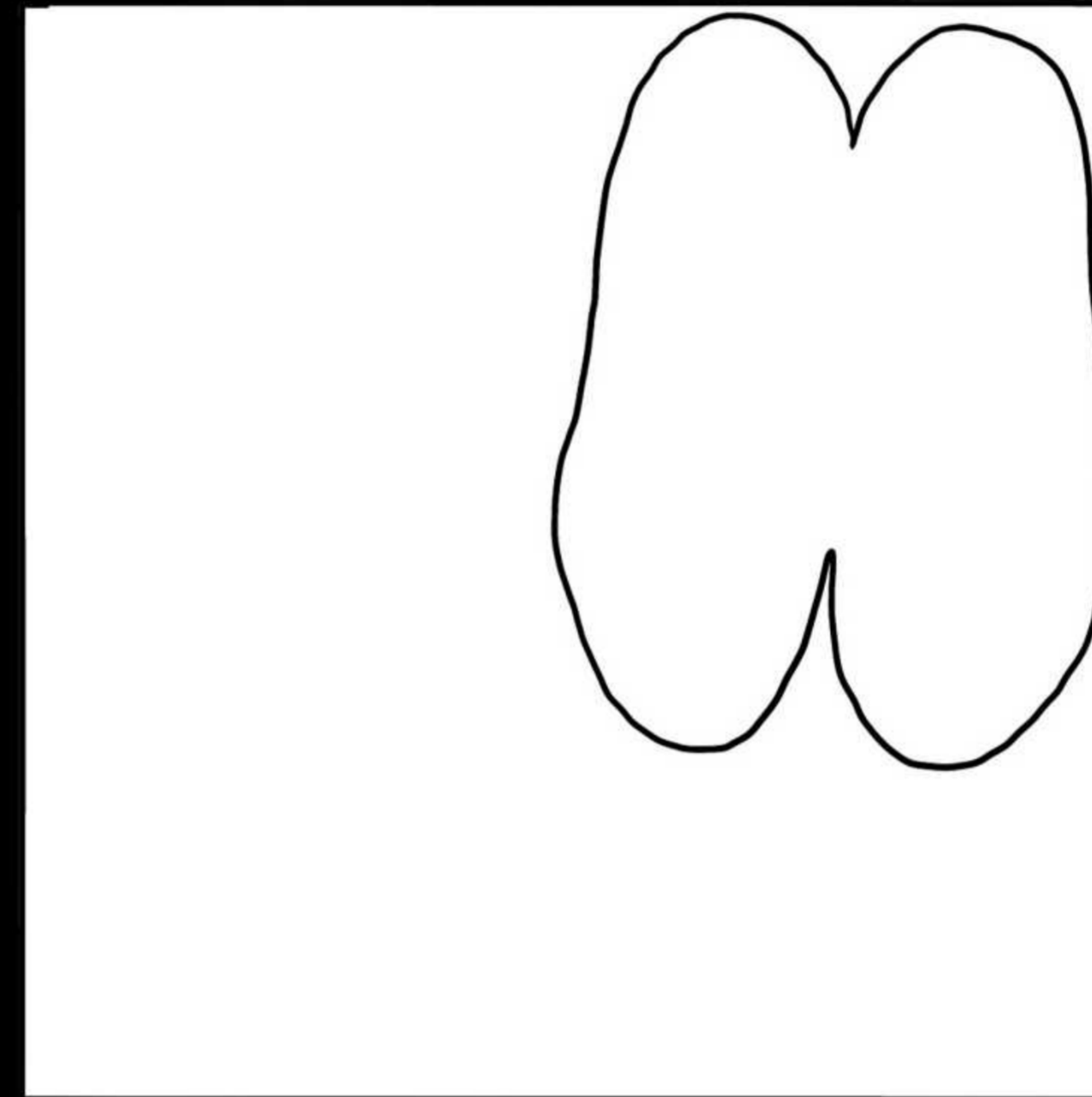
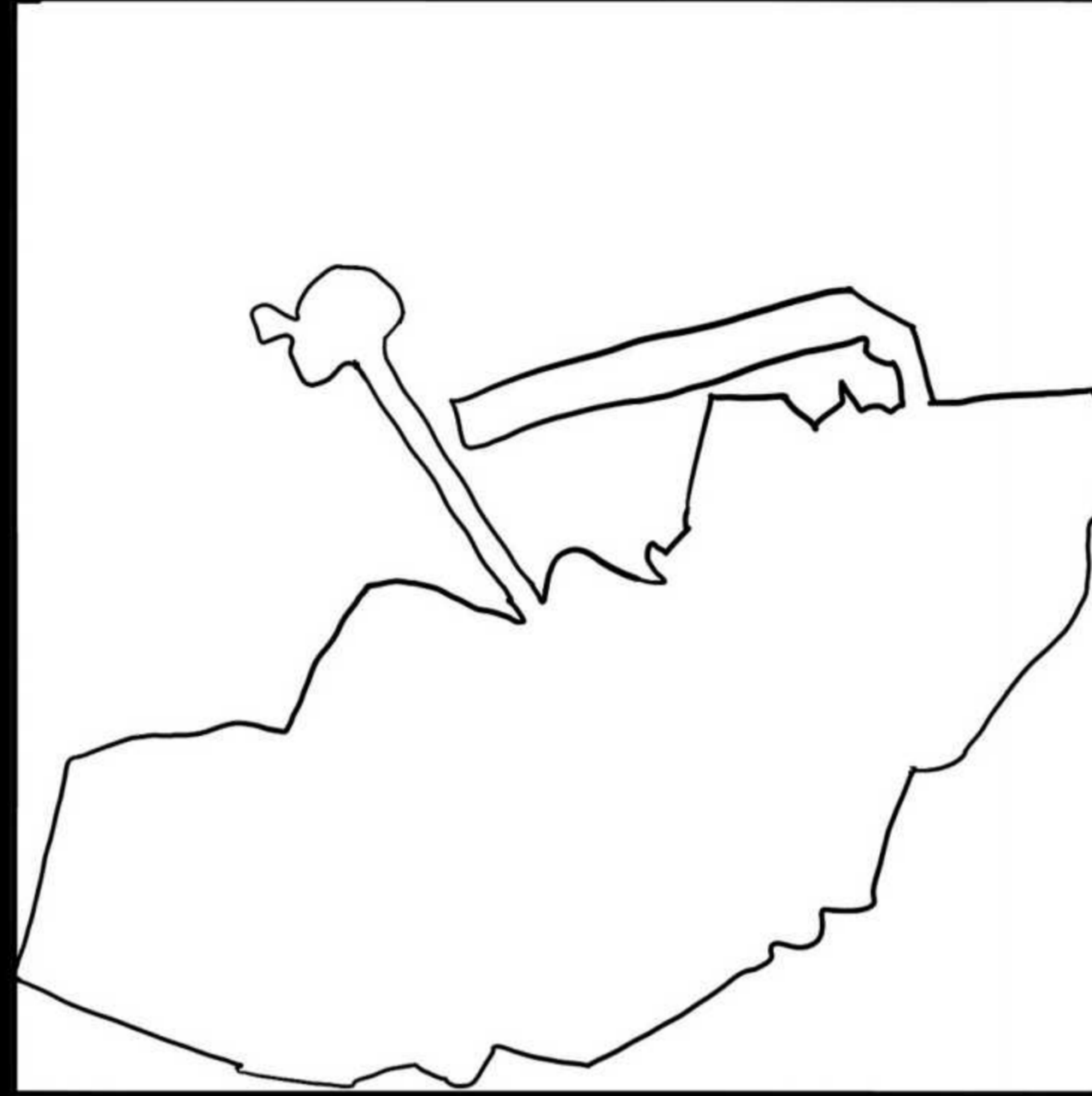
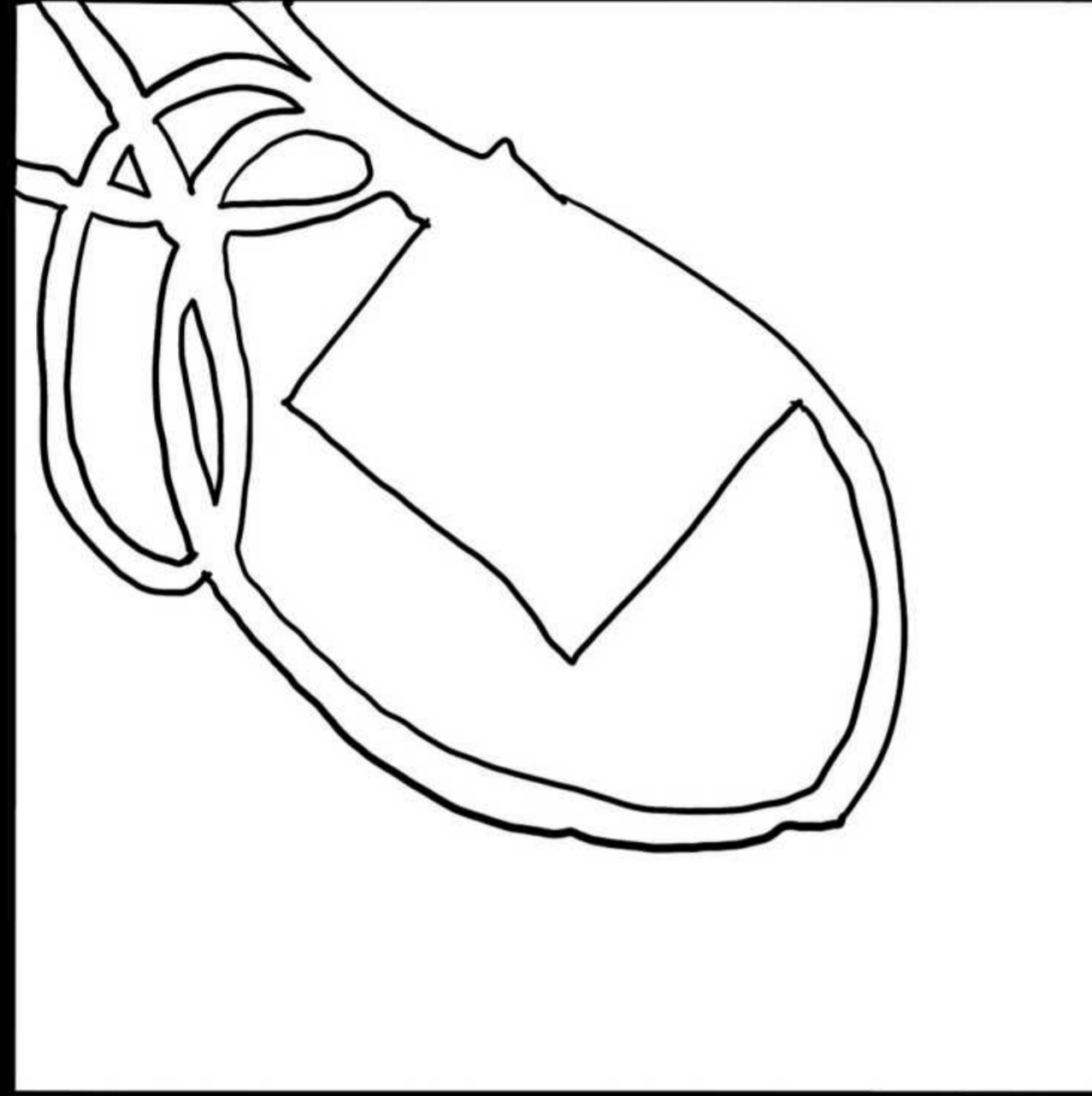
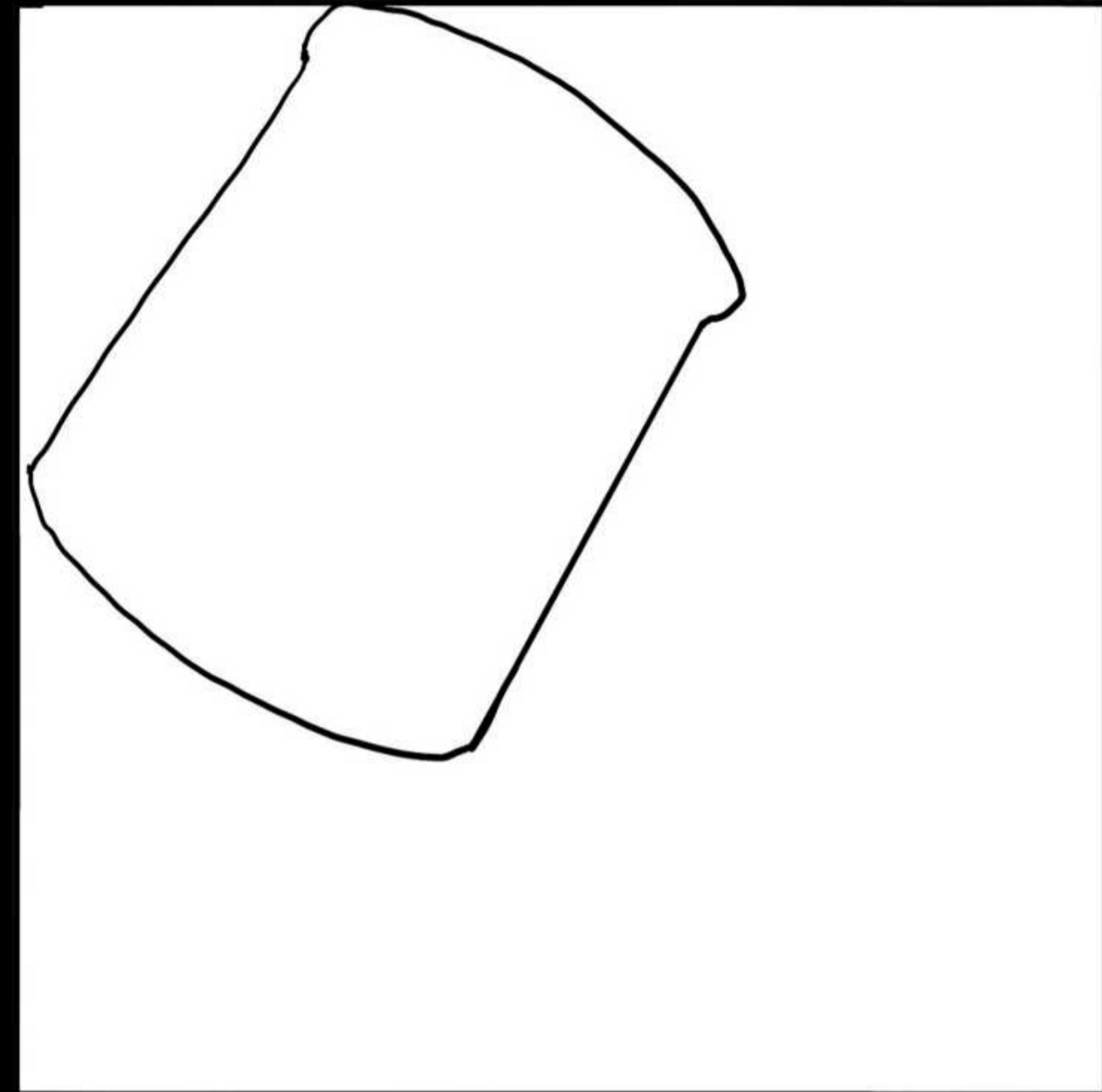
Portfolio

Environmental Circular Institute

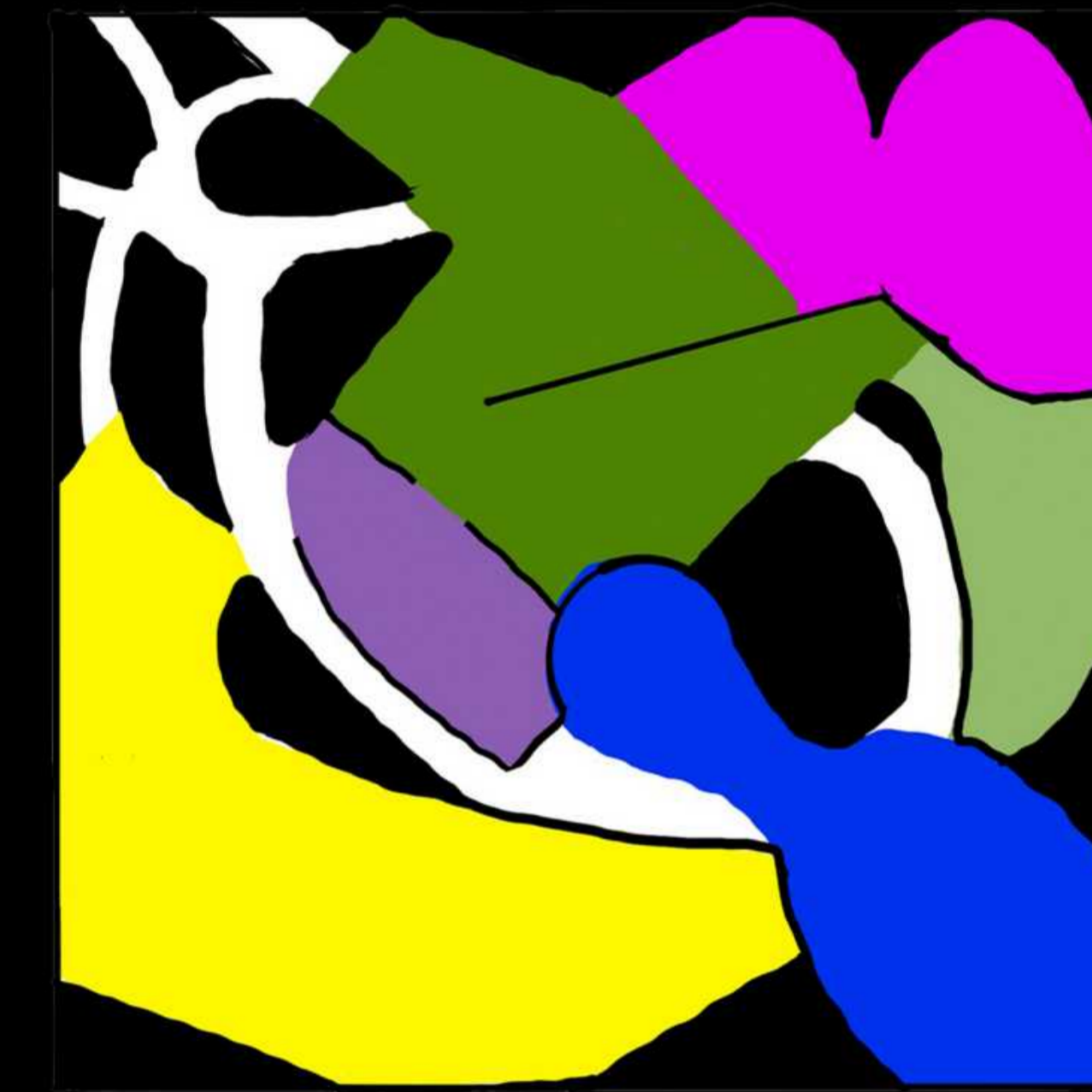
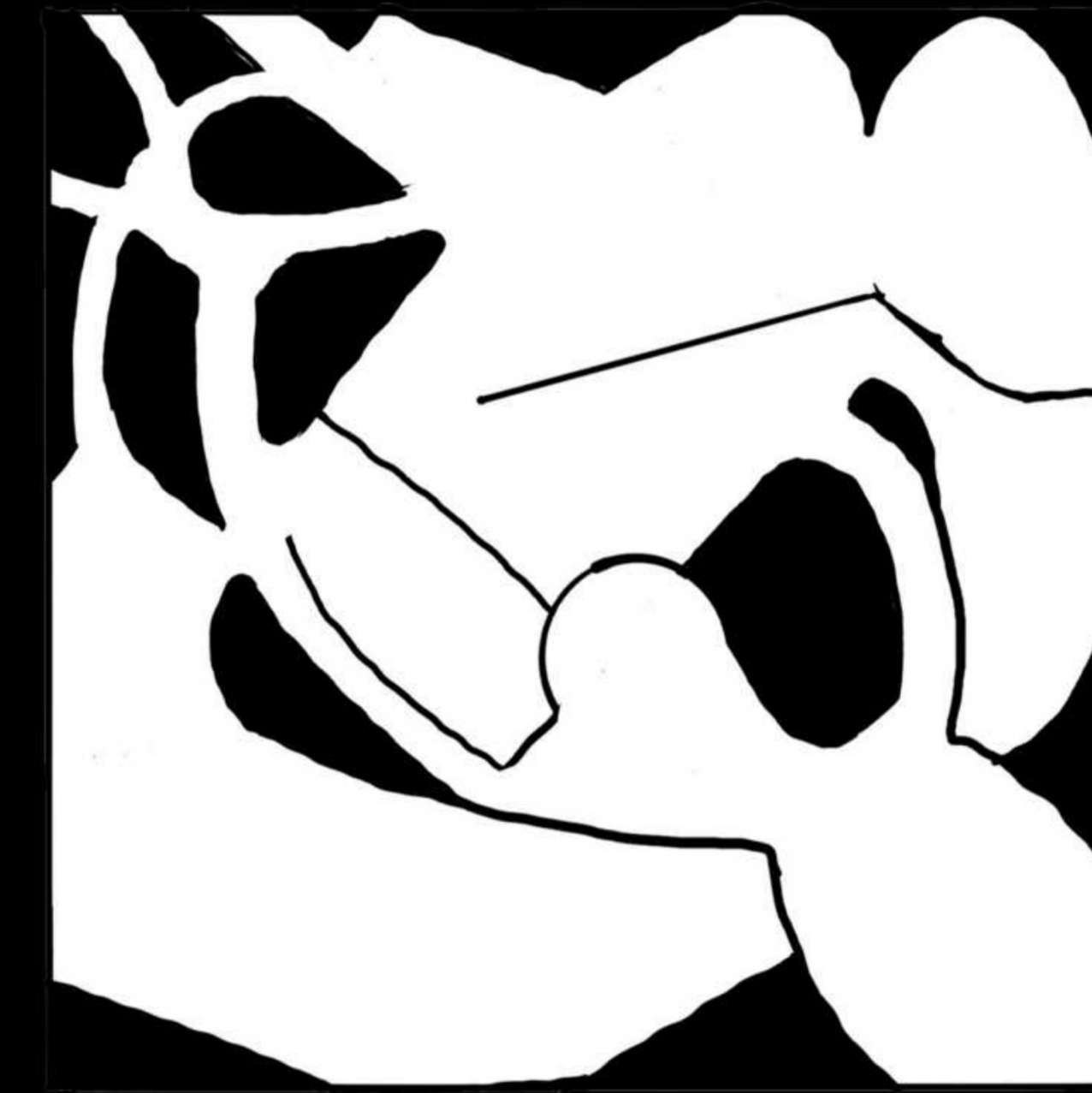
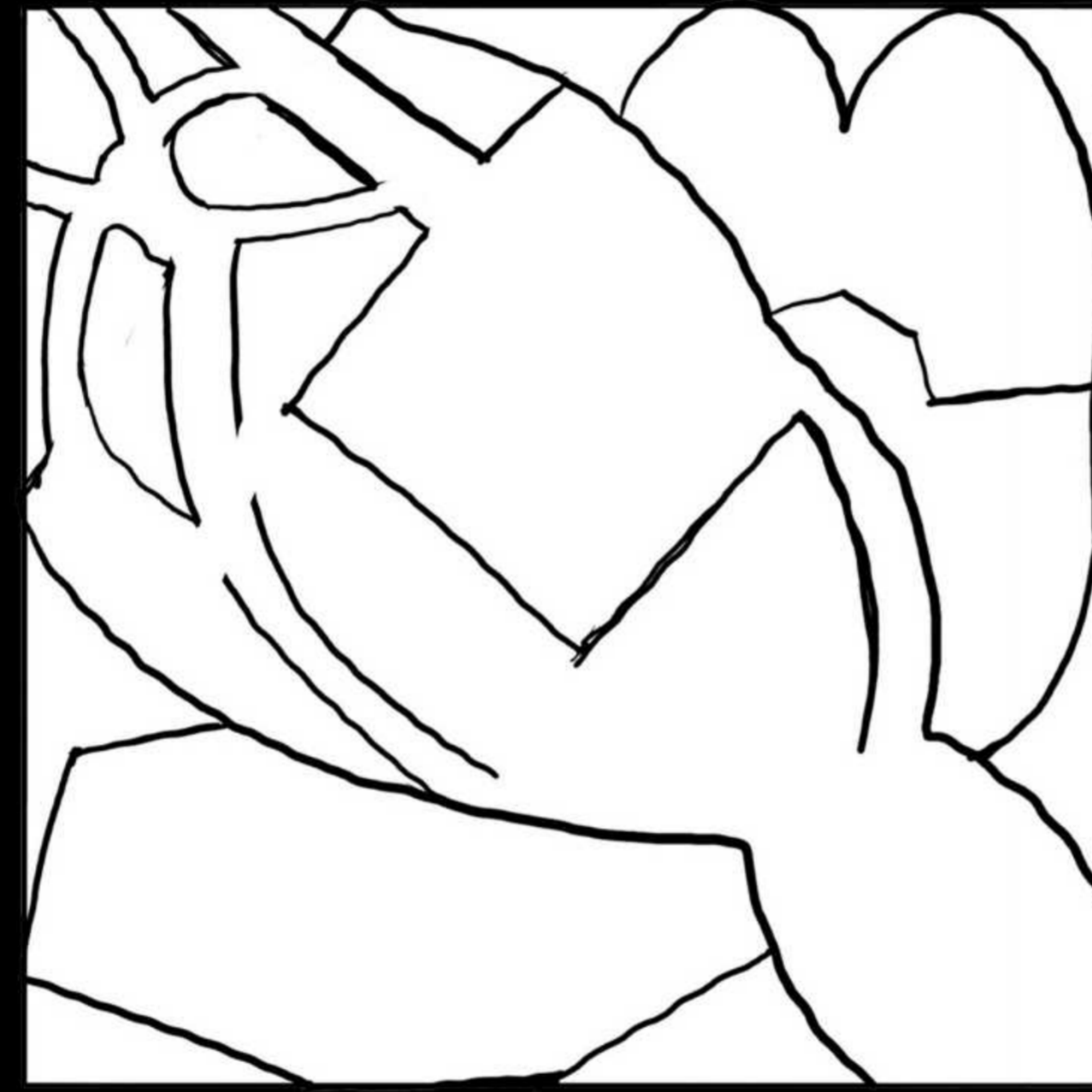
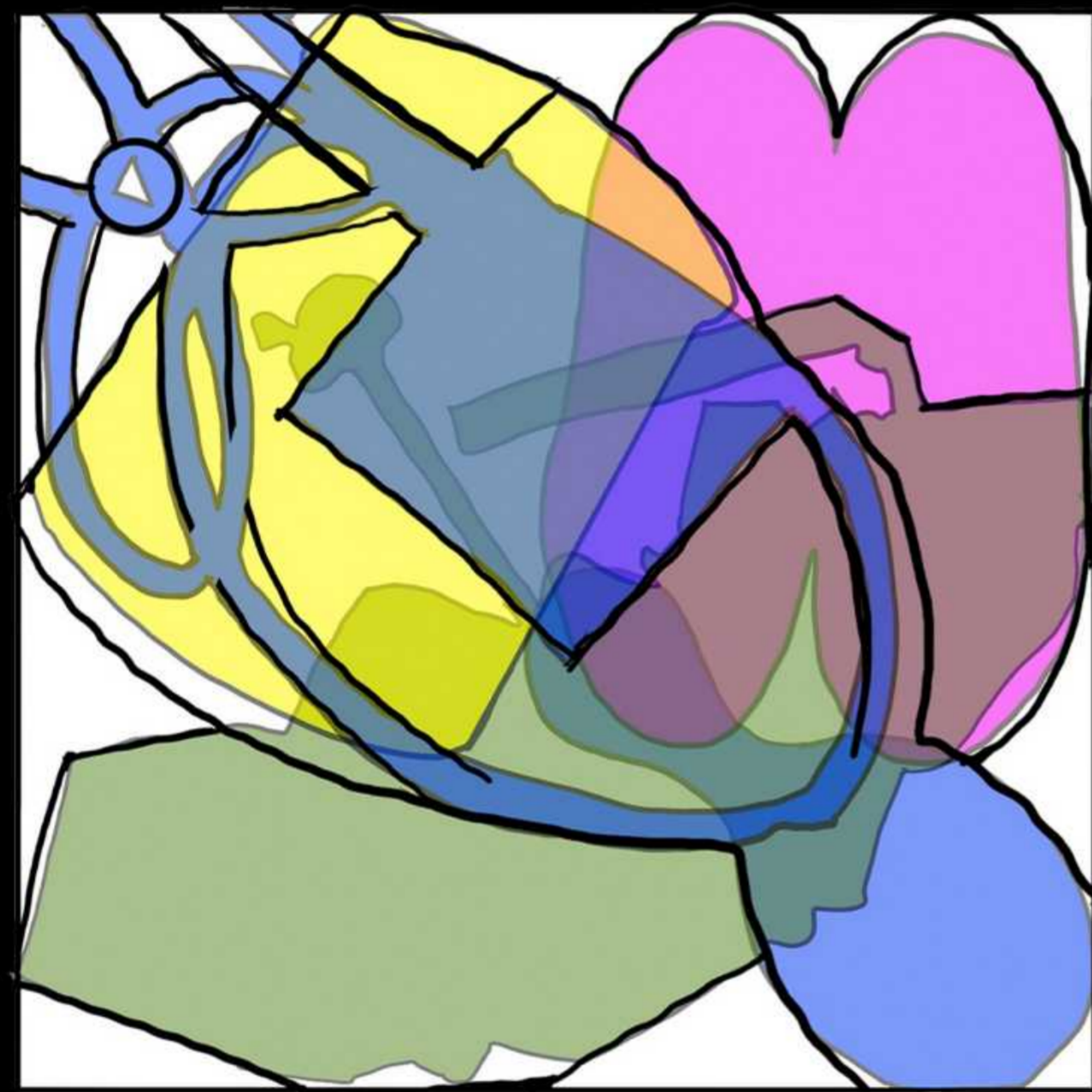
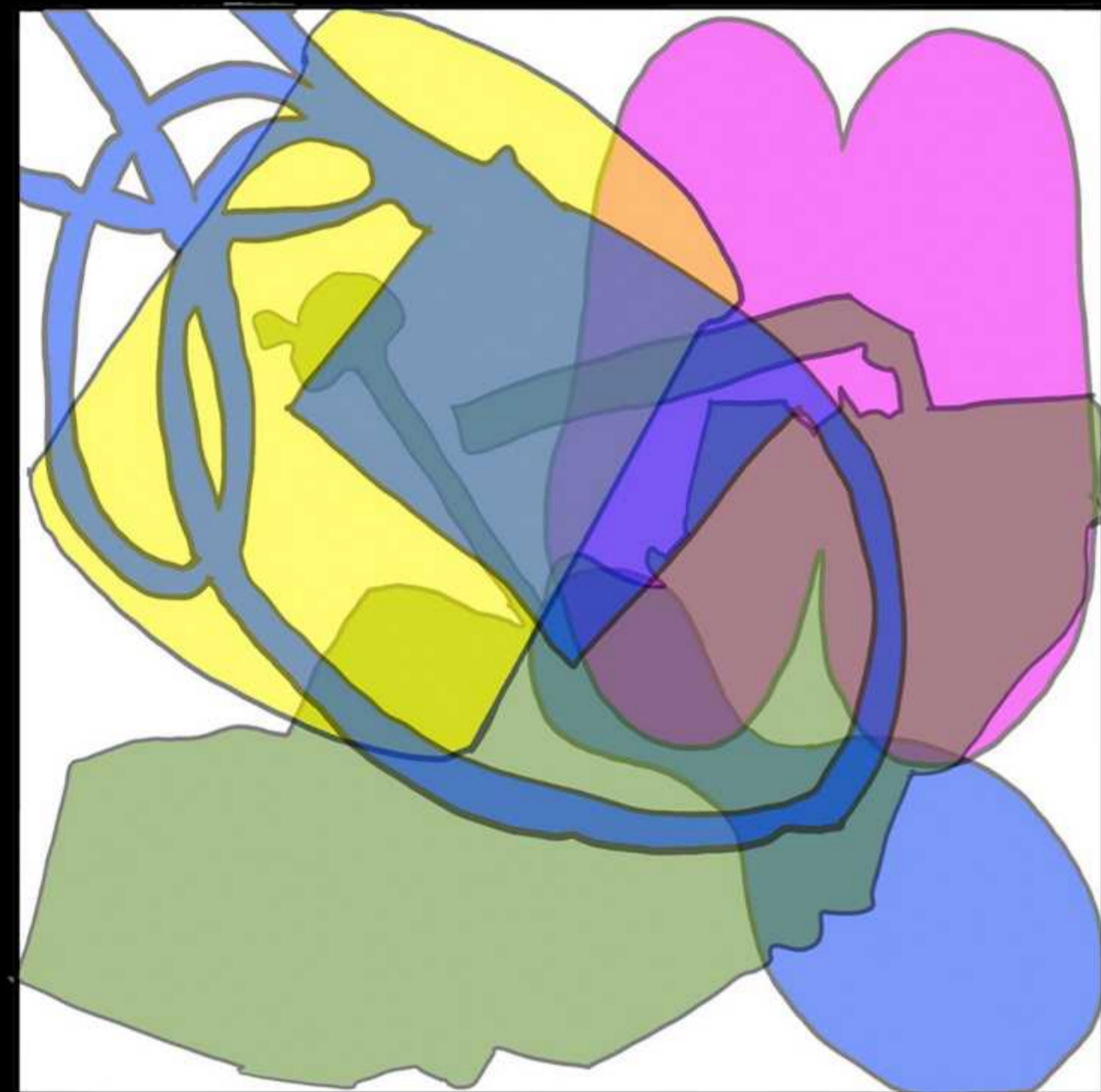
ECI ECI

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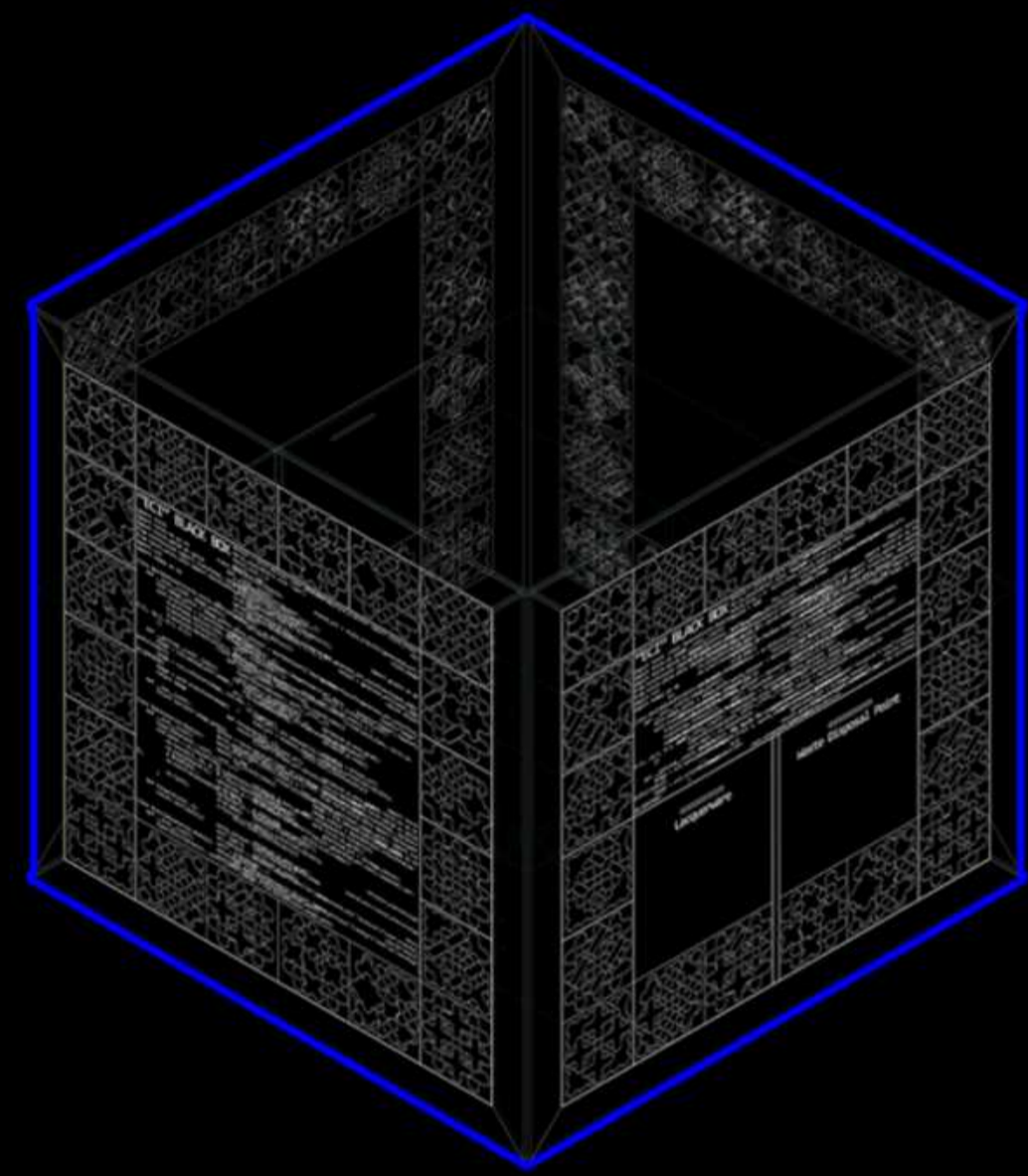


The Ai art symbiosis workstation takes the recycling process of black boxes as inspiration and designs the space with the collected garbage
The placement relationship between garbage and garbage enclosures will form Spaces of different sizes. By integrating possibilities, it becomes a usable studio

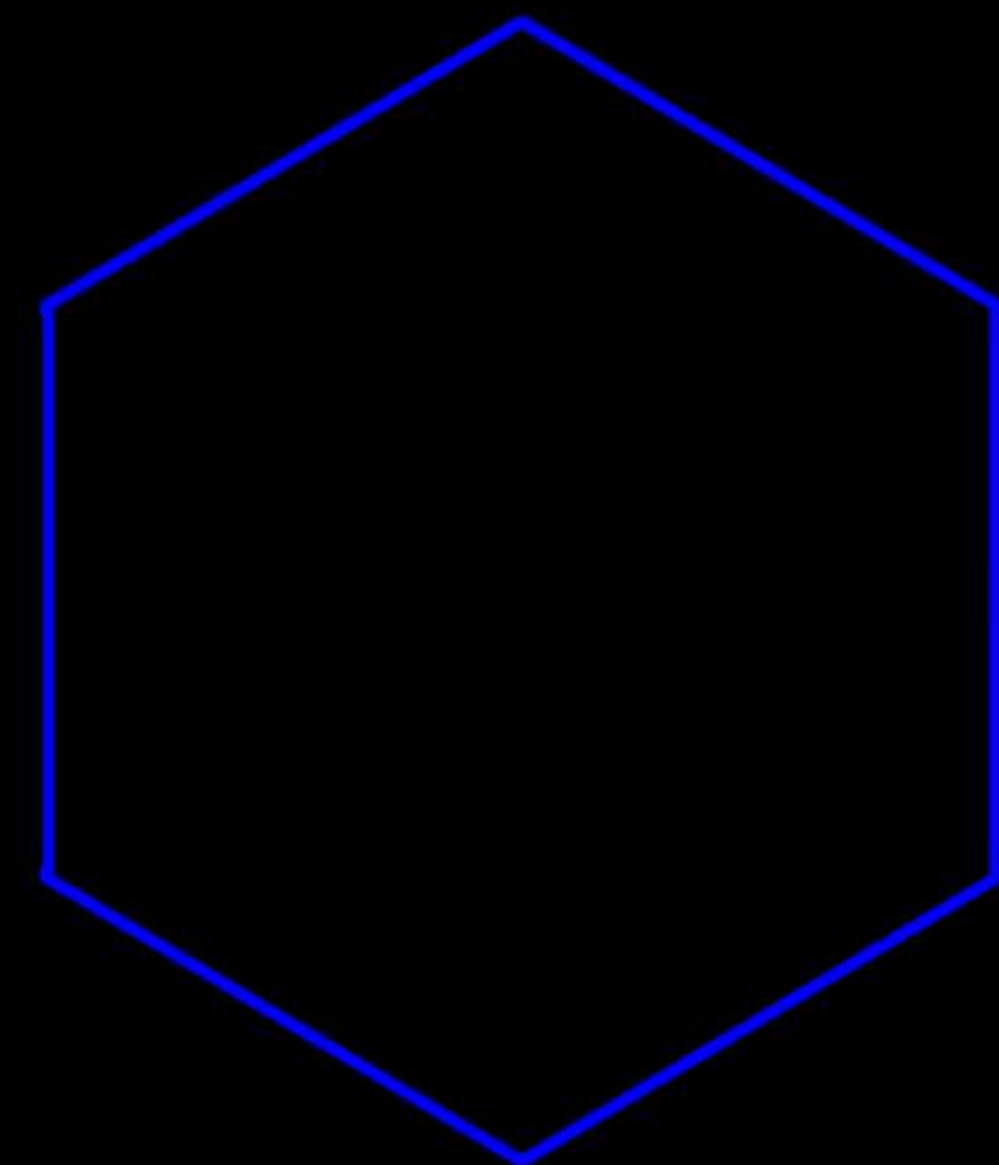


Different colors represent different types of garbage. Break them up and integrate them, just like the black box does to them, rearrange and recombine them, absorb and utilize the useful parts, and re-form a new whole

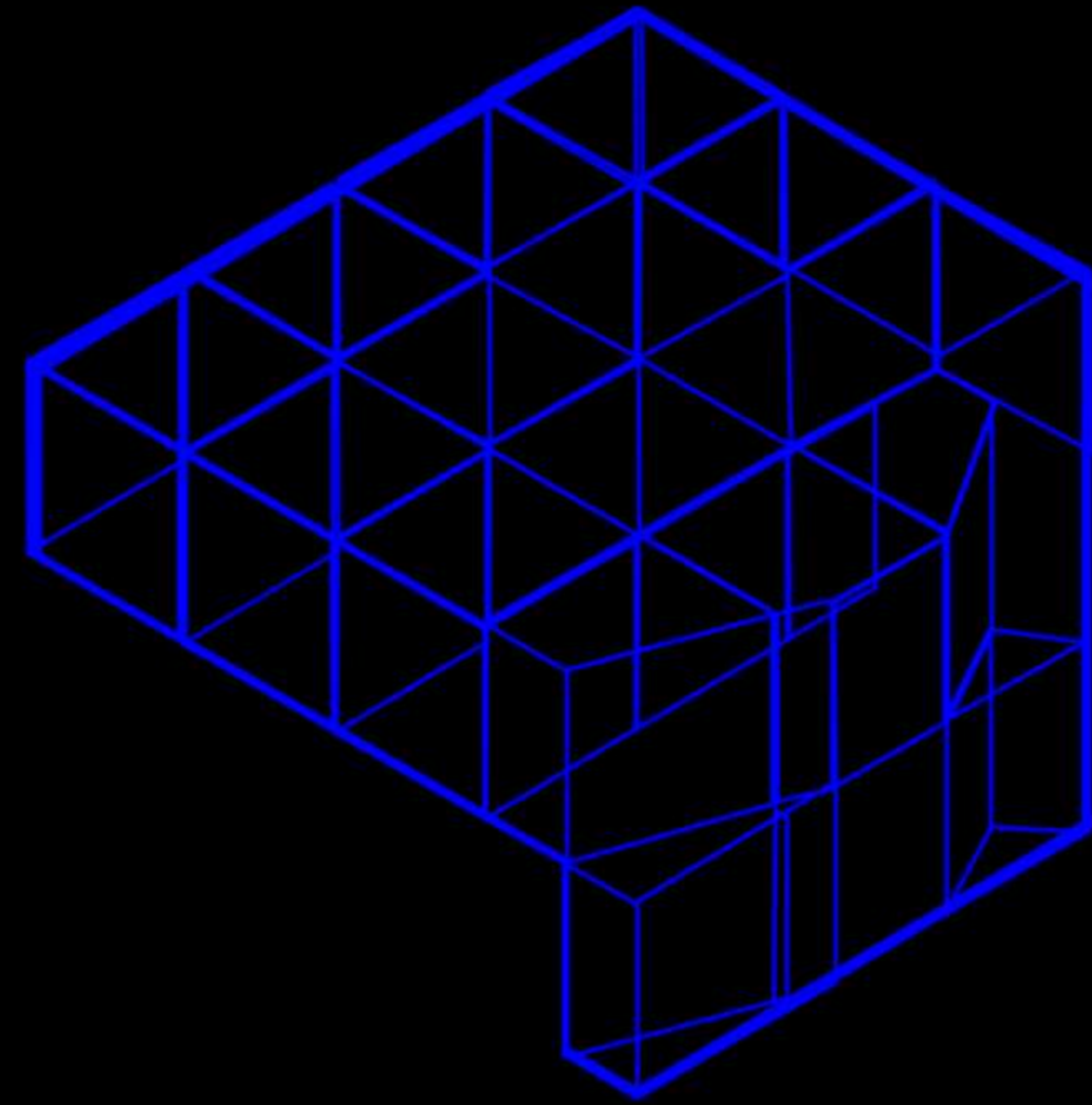
Black Box
INTERIOR SPACE
Ai art symbiosis workstation



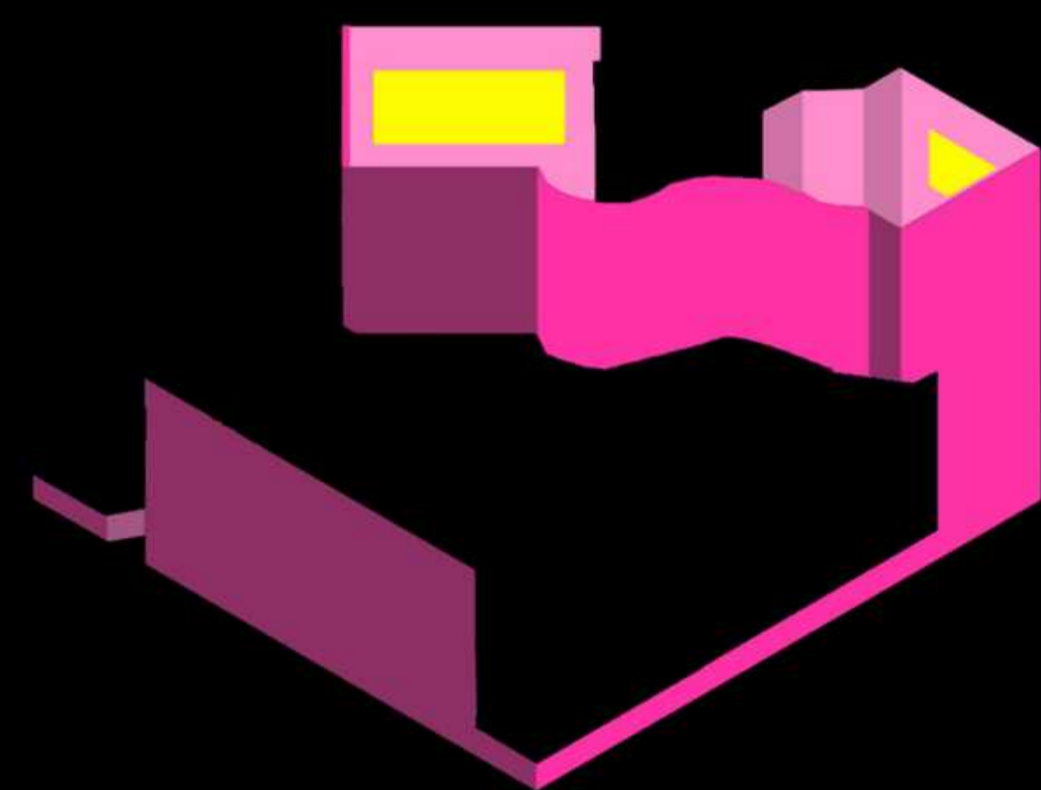
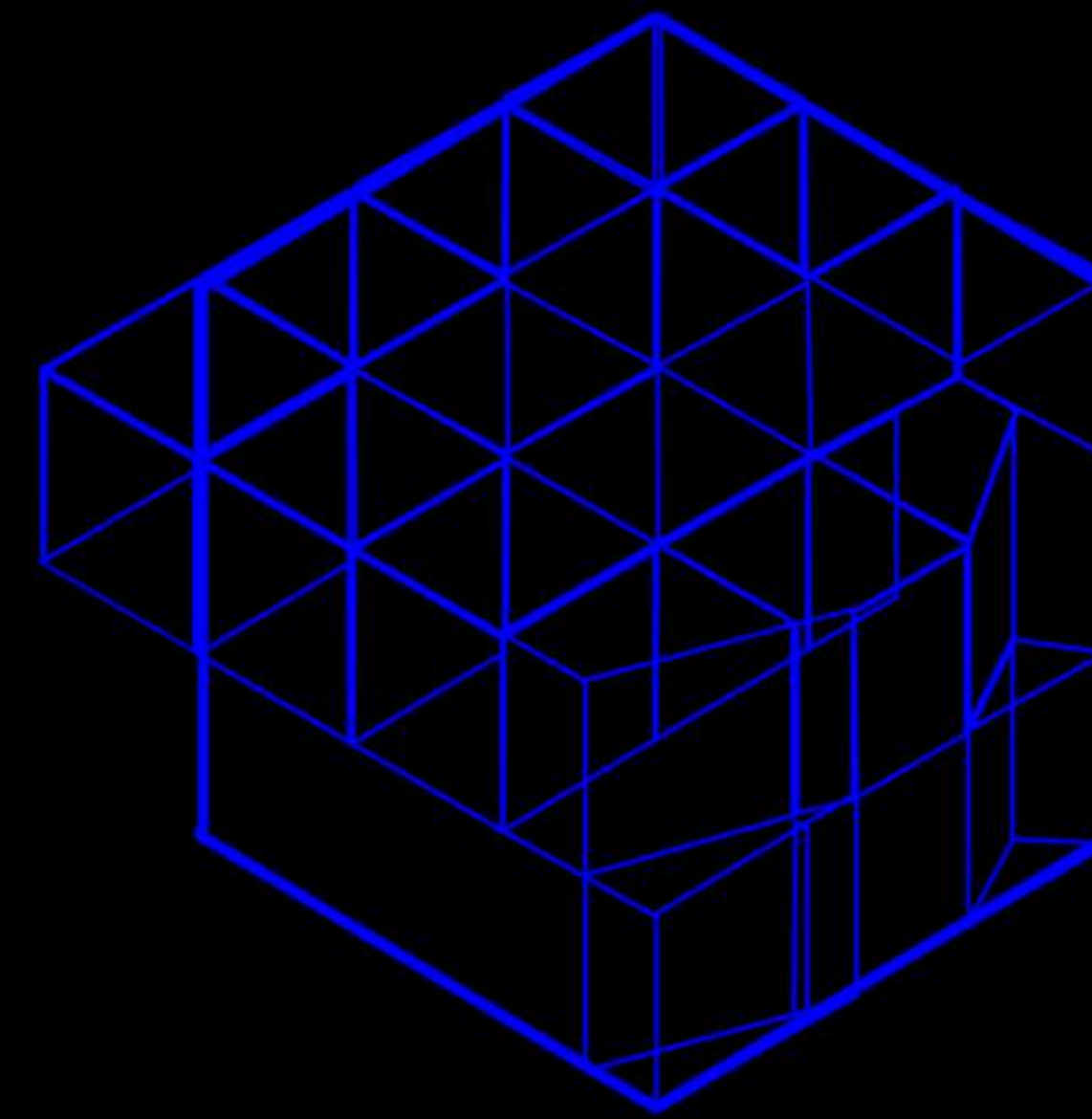
Ai art symbiosis workstation exterior inspired by black box



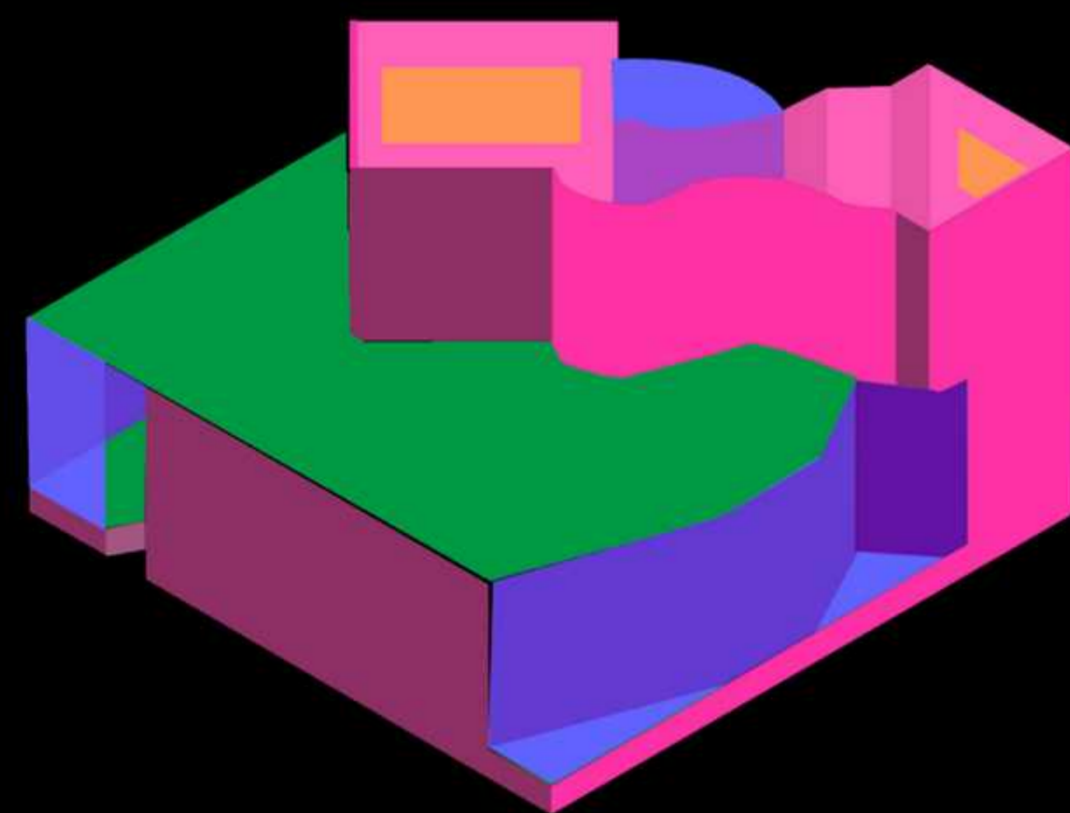
Black box frame



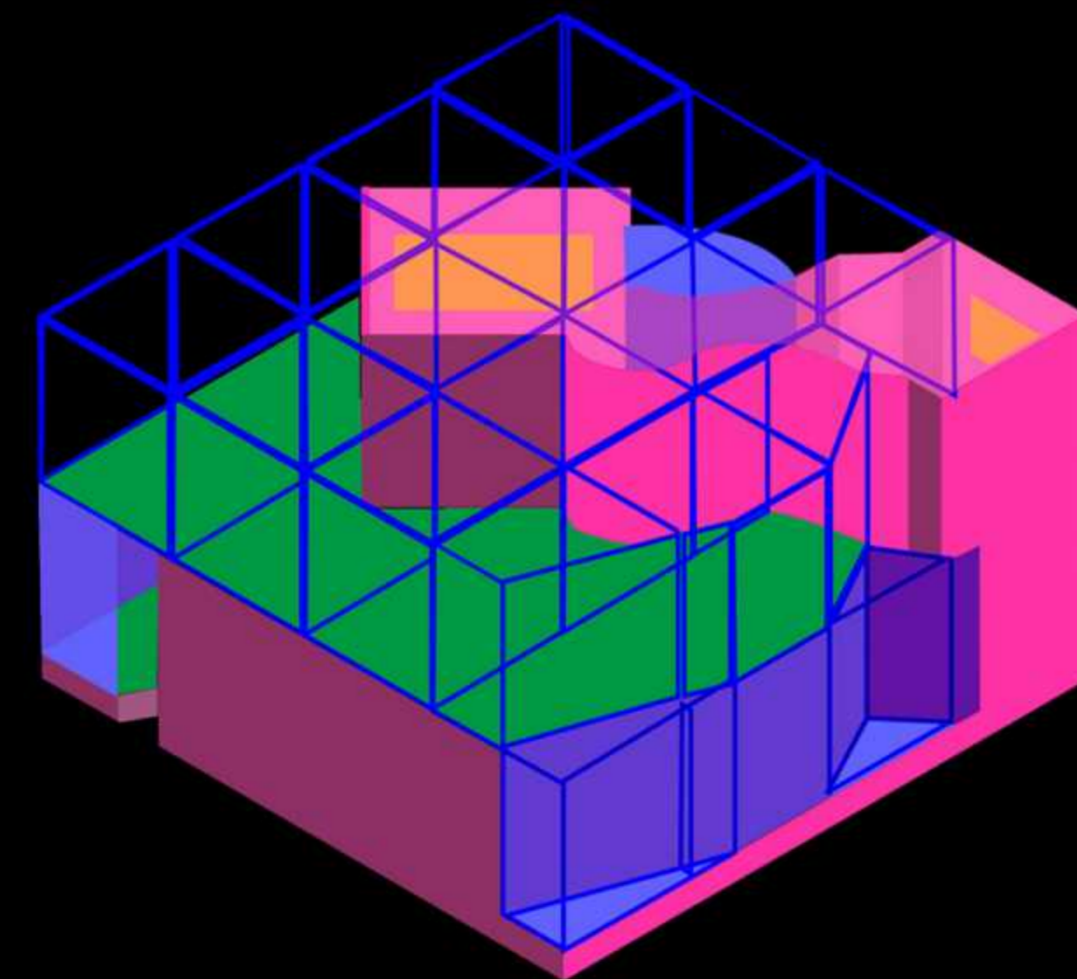
Ai art symbiosis workstation framework built and refined under the black box



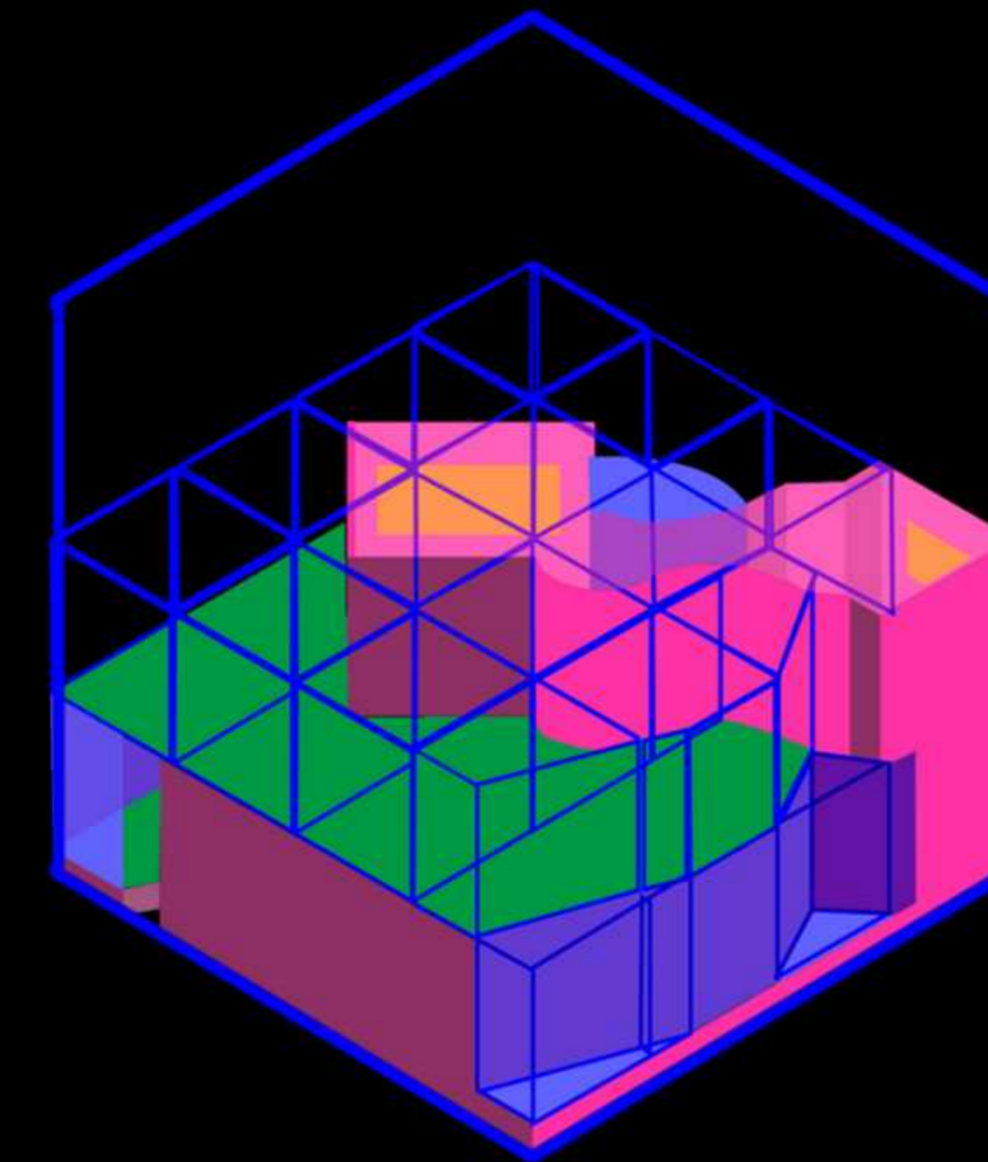
Elevation (solid) block generation decomposition



Combination of planar and elevational blocks

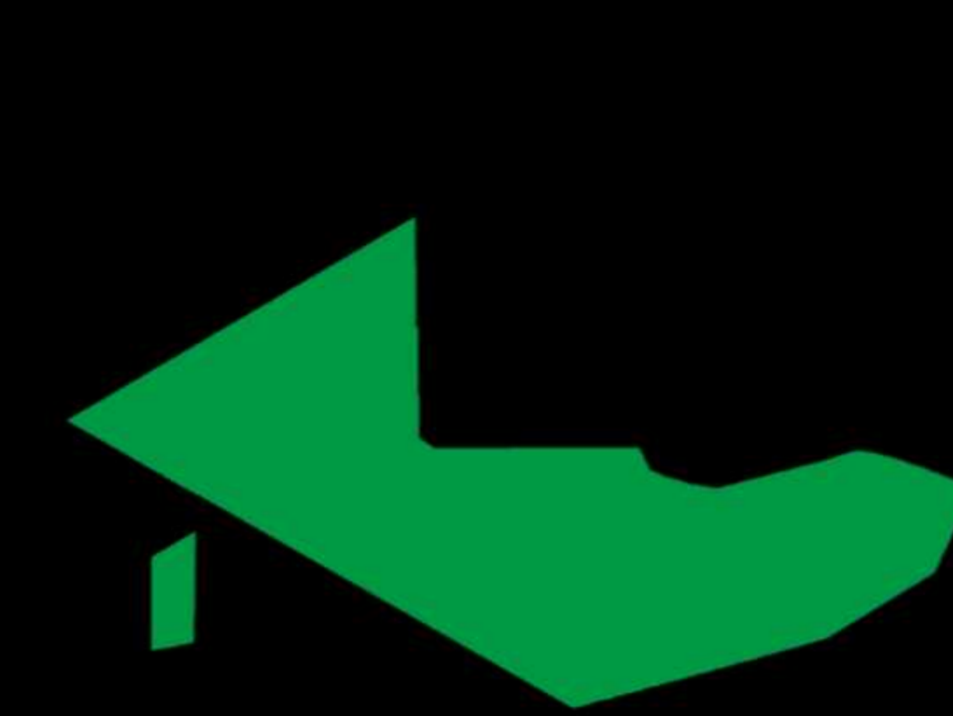


Combination of planar elevation blocks and frames

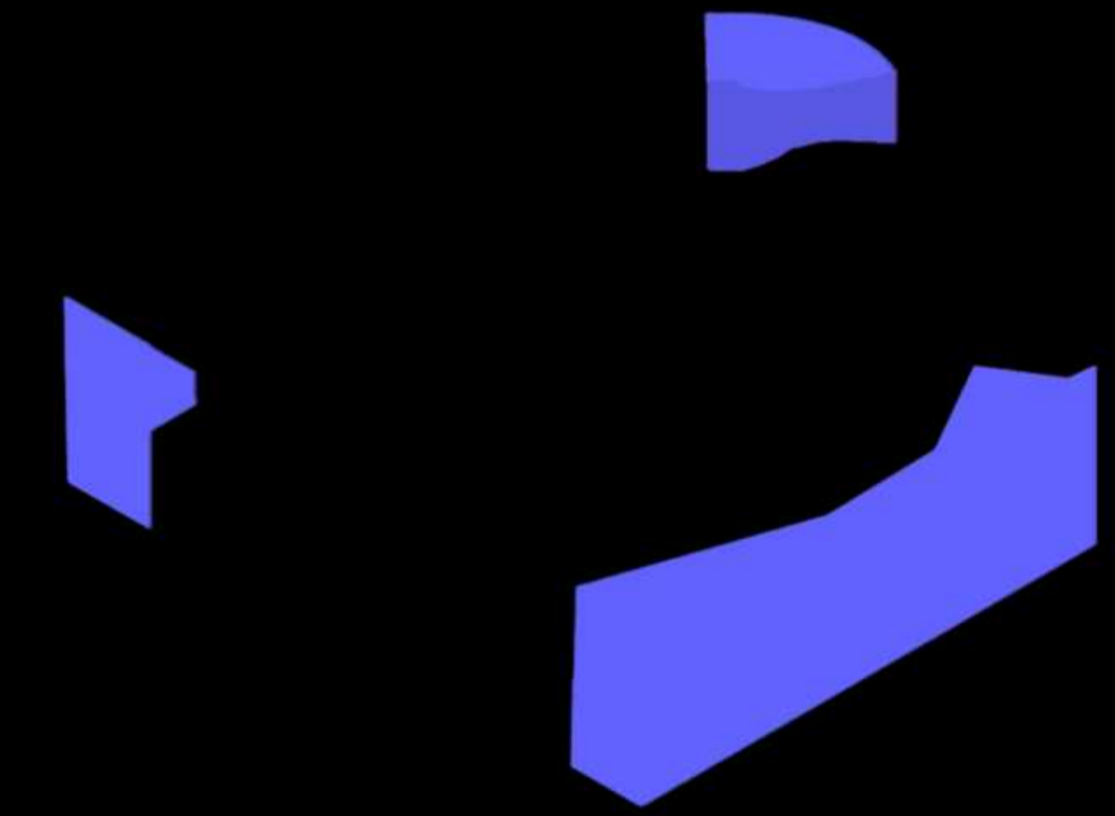


Creation and refinement of the Ai art symbiosis workstation space under the black box.

Portfolio
INTERIOR SPACE
Ai art symbiosis workstation



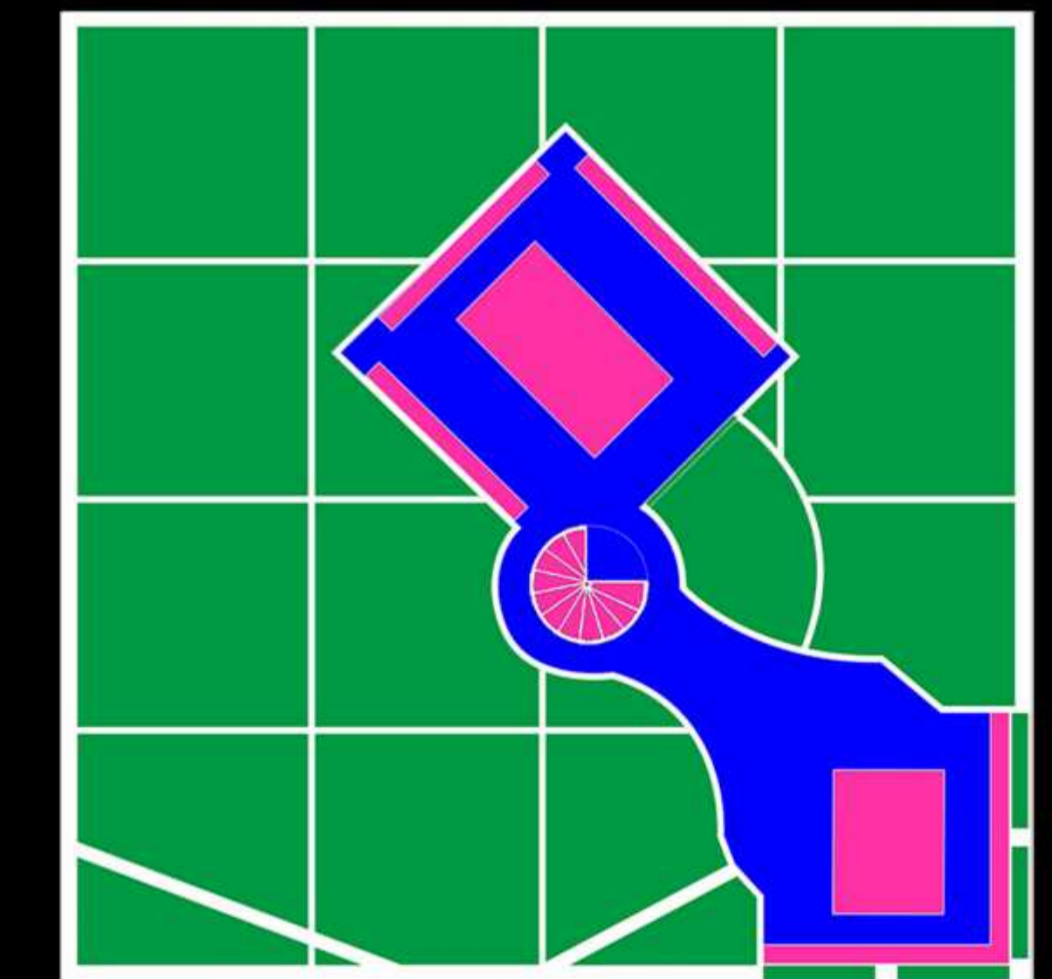
Generation and decomposition of planar blocks



Elevation (transparent) block generation decomposition



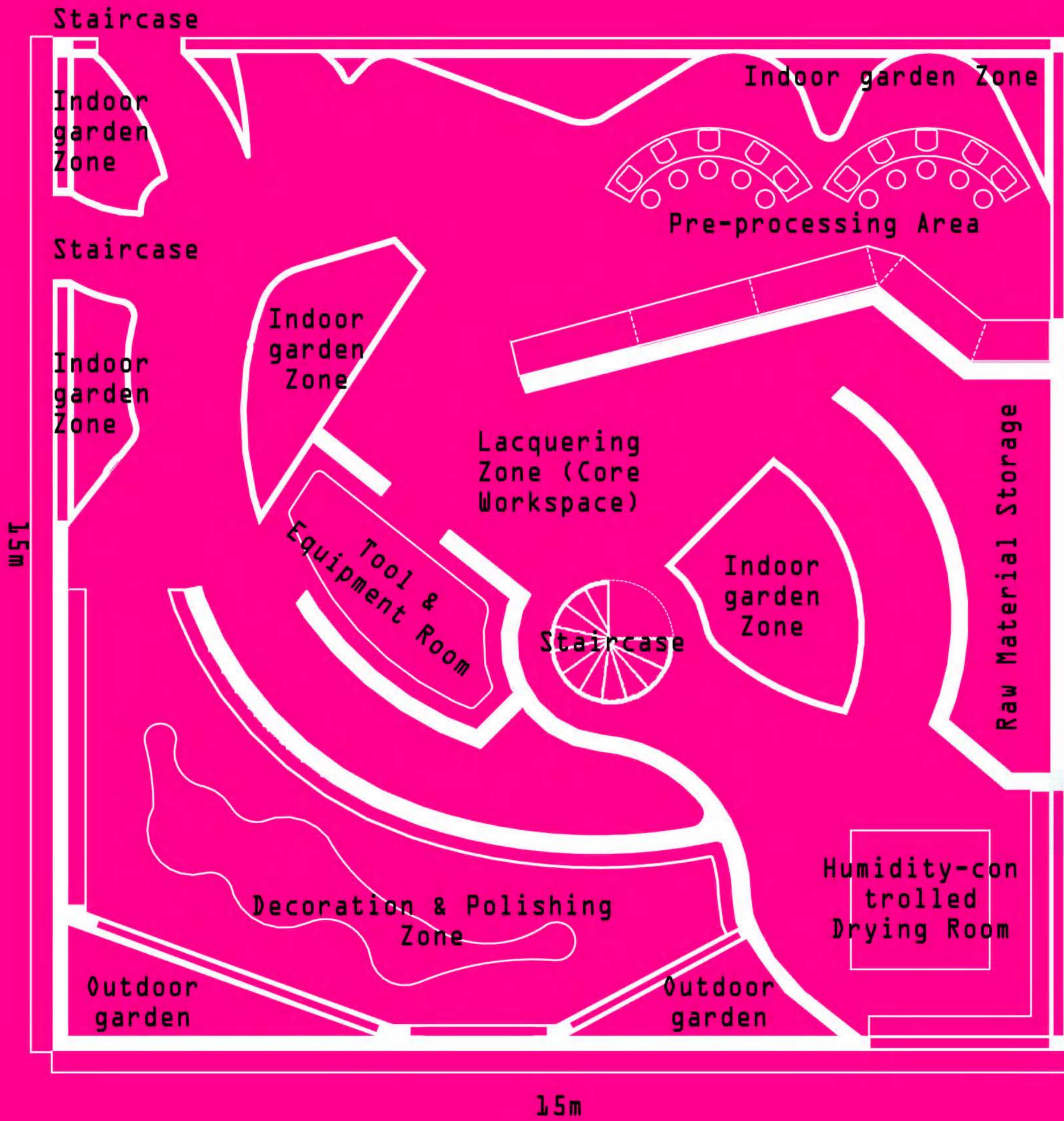
Ai art symbiosis workstation-First Floor Plan



Ai art symbiosis workstation-Second Floor Plan

Black Box
INTERIOR SPACE

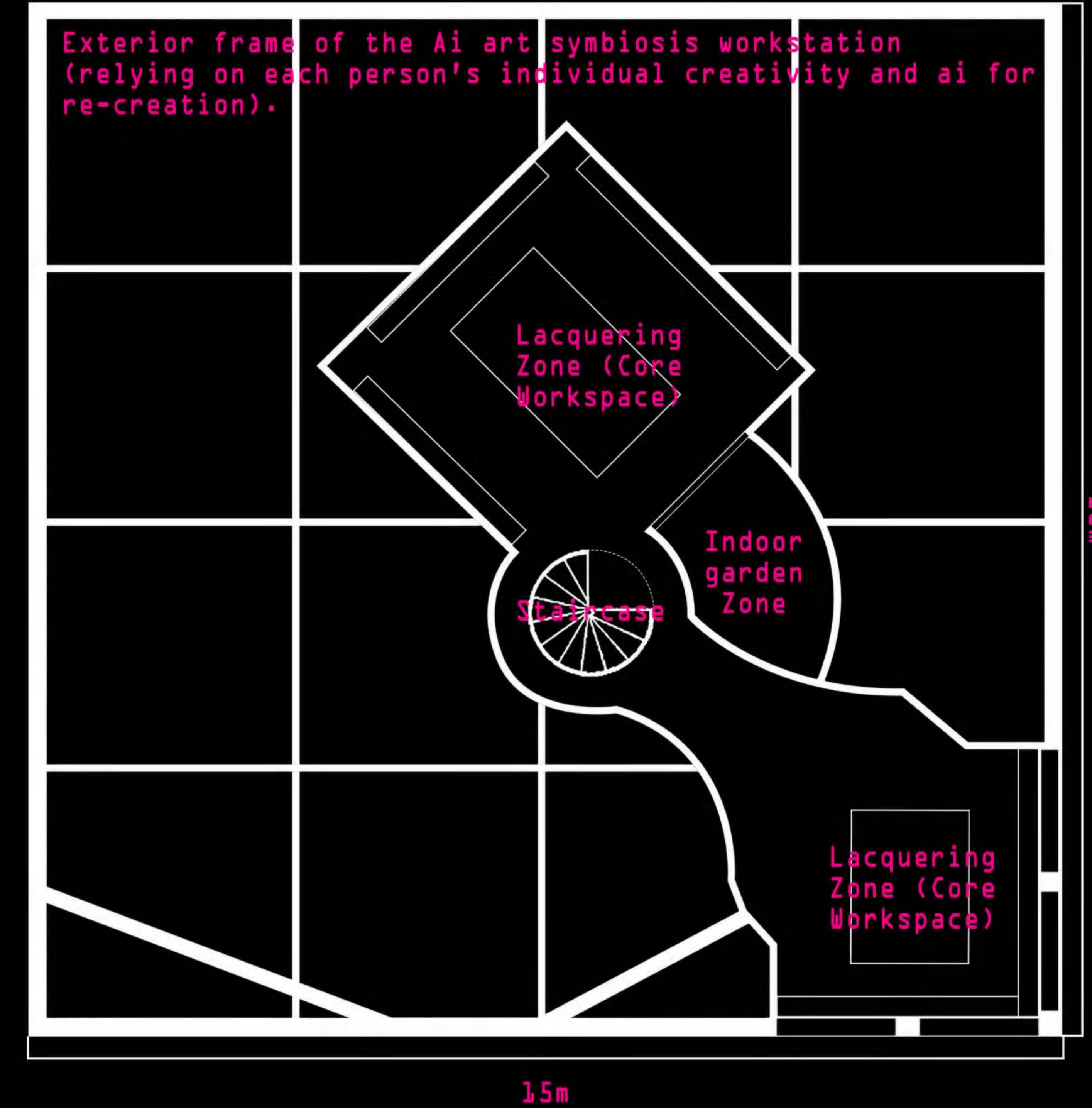
Ai art symbiosis workstation-First Floor Plan



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Portfolio
INTERIOR SPACE

Ai art symbiosis workstation-Second Floor Plan



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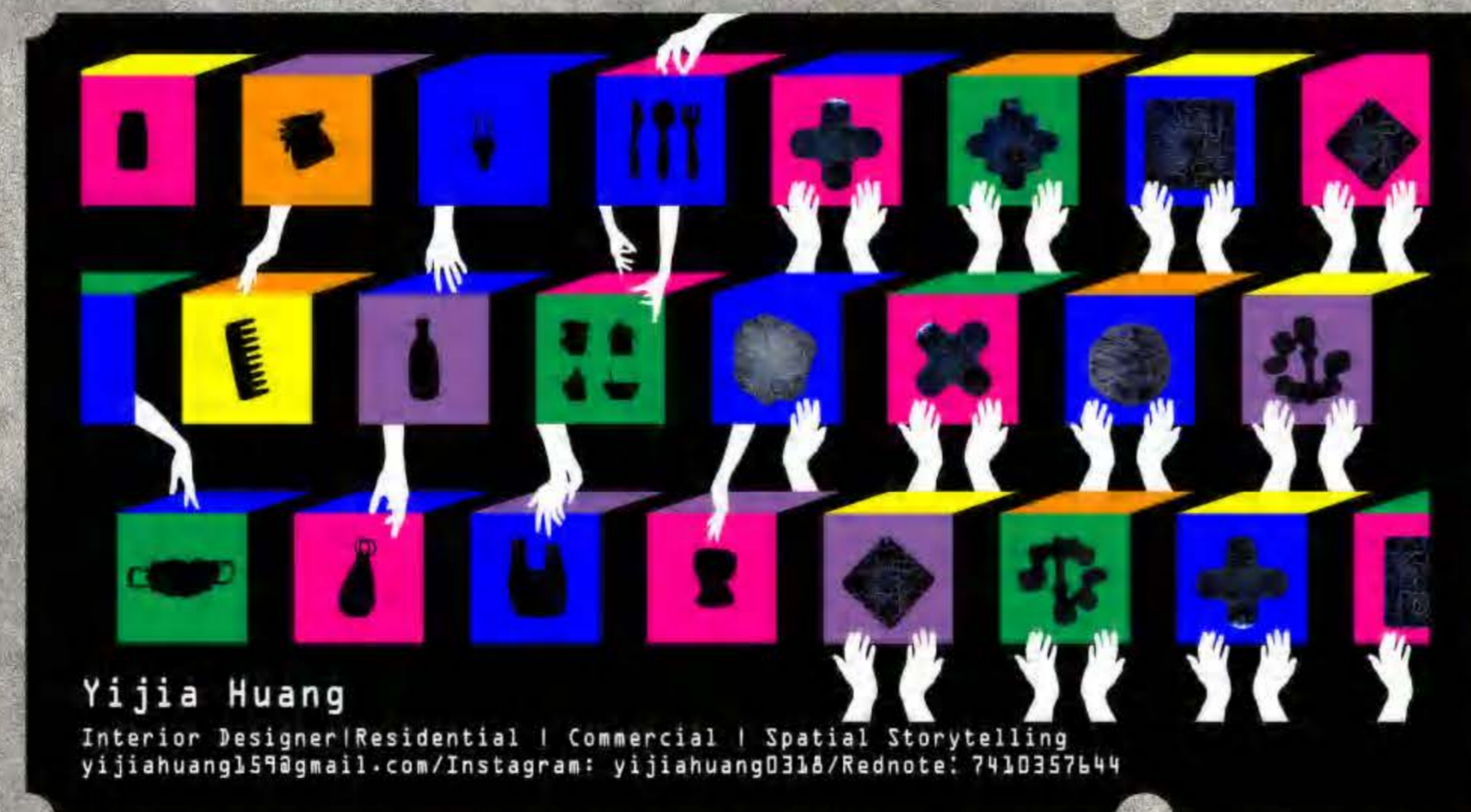
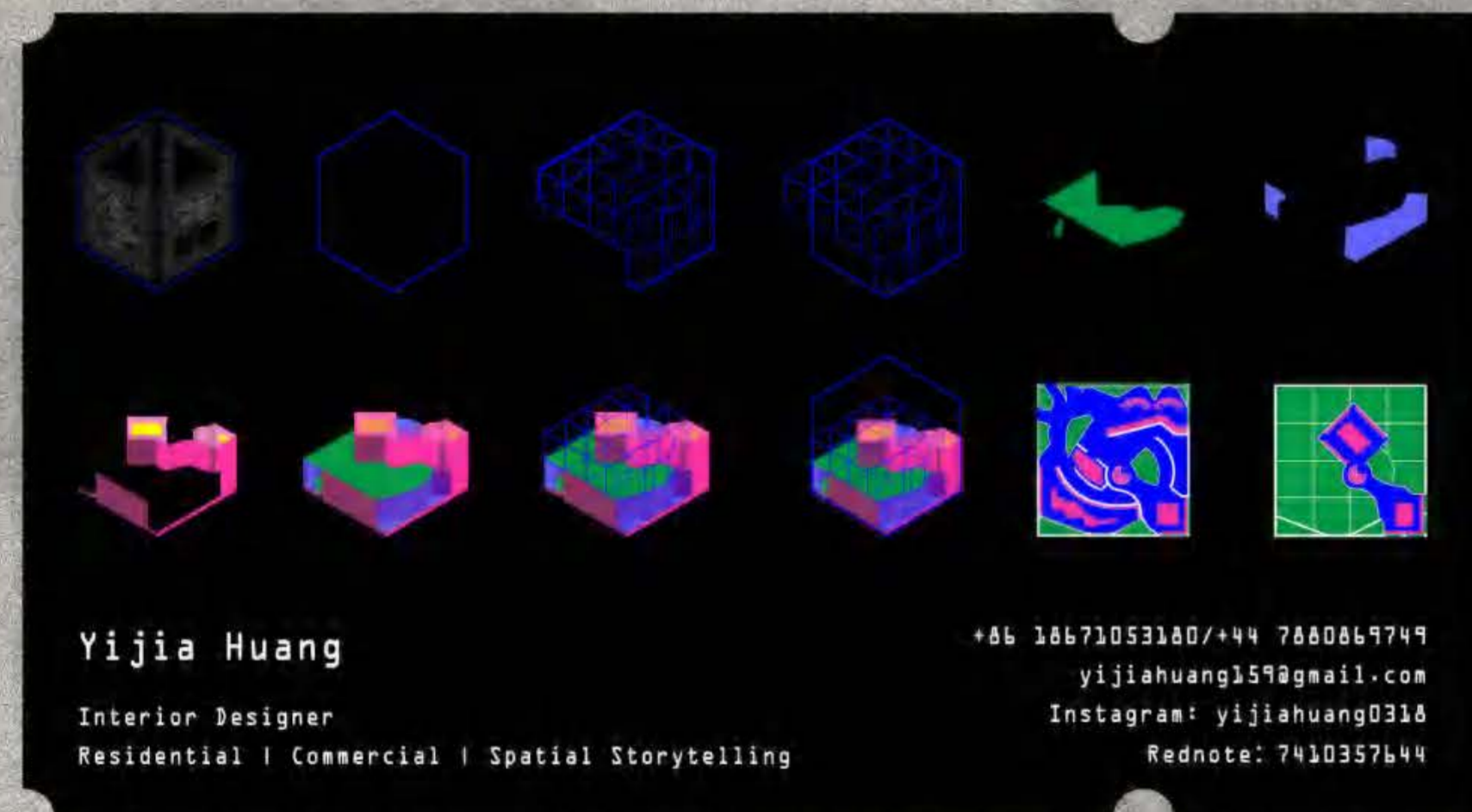
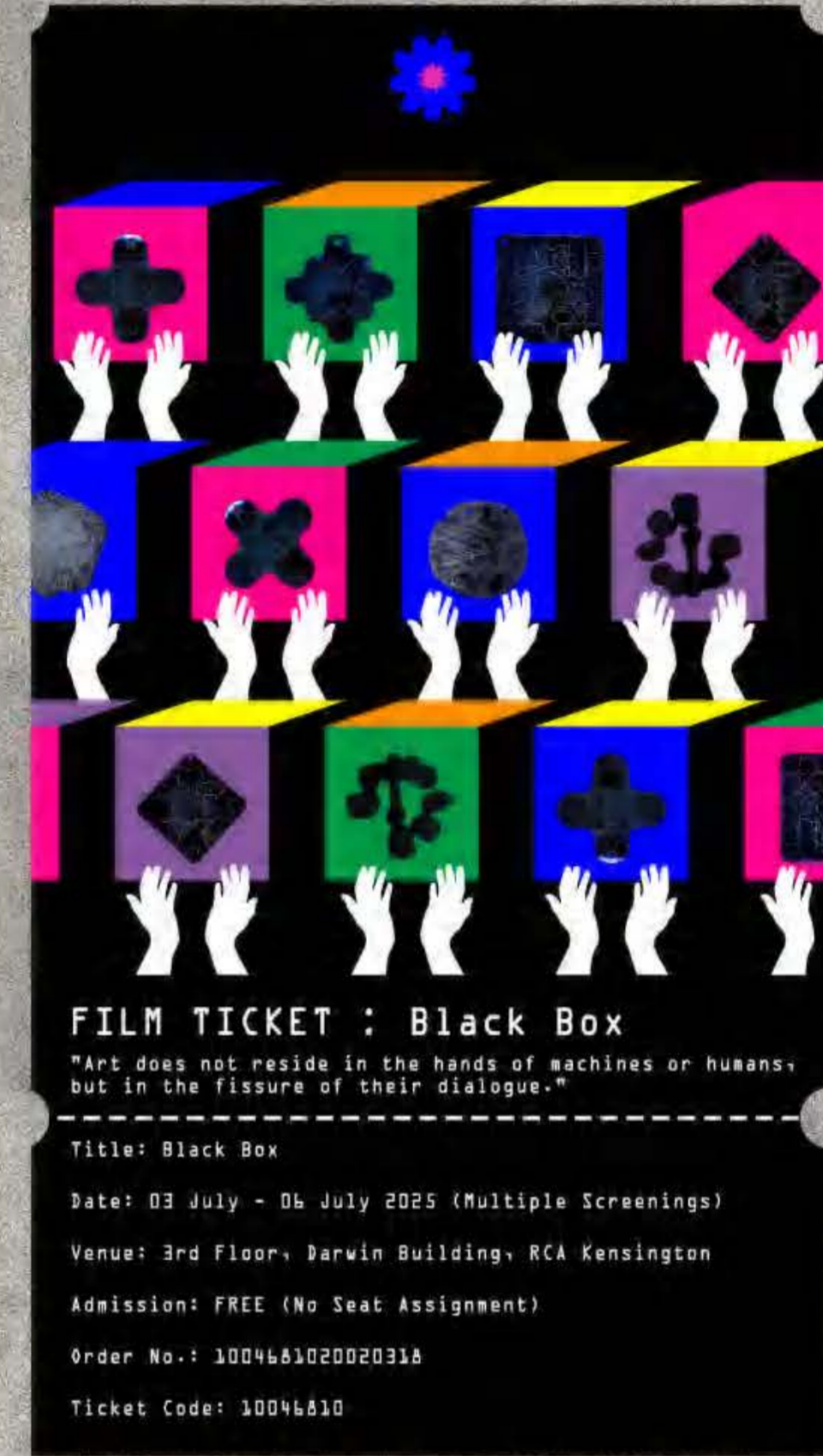


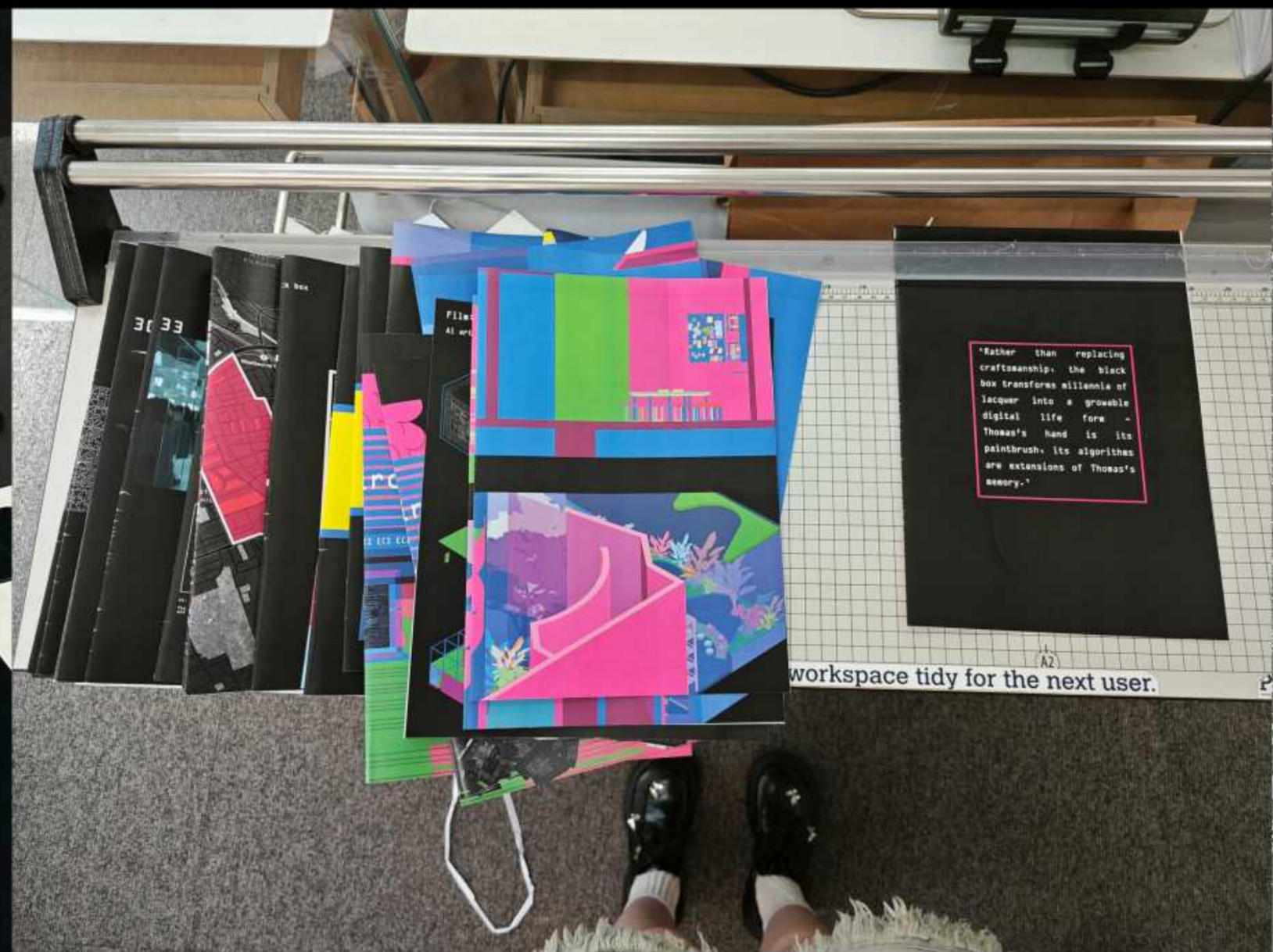
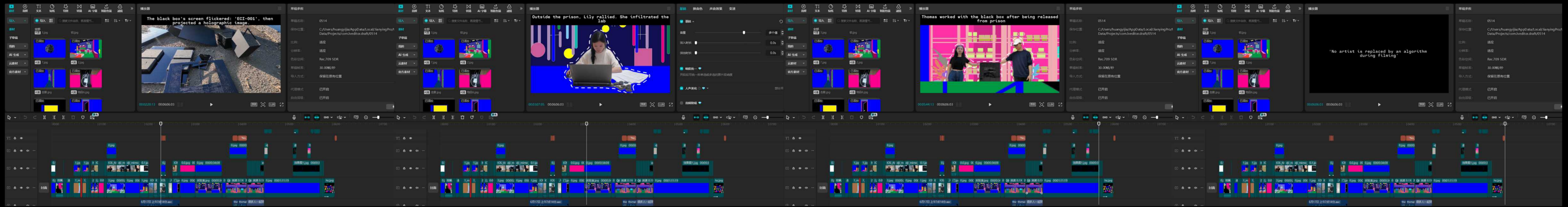












Black Box CONCLUSION

Summary of the "Black Box" story

Core Conflict

When tech giant ECI launches the Black Box – a household device that transforms waste into flawless lacquerware in the name of sustainability – traditional lacquer artisan Thomas discovers that the machine is systematically plagiarising his techniques, erasing the value of handcraft. What appears to be a "green revolution" is in fact a calculated conspiracy of culture, art, and technological monopoly.

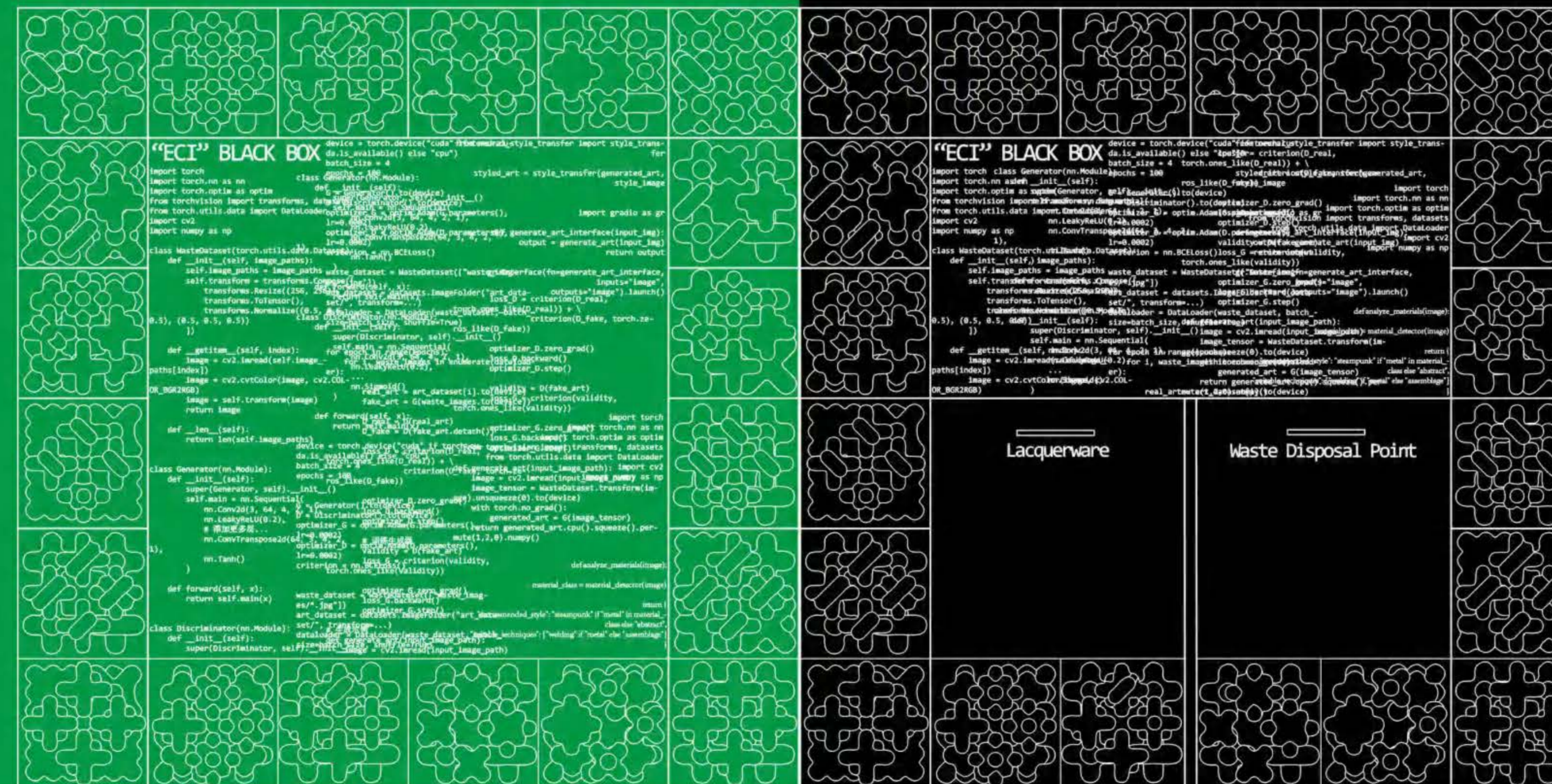
Key Turning Points

- Awakening (2032):** Thomas smashes the Black Box in a moment of rage, only to be injured by the very machine – exposing the violent undercurrents of technological power.
- Revelation (2032):** His daughter Lily hacks into ECI's database, uncovering proof that the machine's artistry is rooted in stolen human craftsmanship.
- Rebirth (2050):** Together, father and daughter reengineer the Black Box into a Symbiotic Workstation, transforming AI into a brush for the artisan – no longer a blade replacing the hand.

Ultimate Questions

- Has sustainability become a pretext for exploitation? Behind ECI's promise of "zero waste" lies a data-driven suppression of cultural diversity.
- Can a machine carry a soul? The Black Box may produce flawless lacquerware, but it is hollow – unlike Thomas's scarred, trembling creations, which echo with the pulse of life.
- Revolt or coexistence? The answer is not to destroy technology, but to reclaim the right to define it – to demote AI to its rightful place as a tool, and re-embed the human fingerprint at the heart of civilisation.

Yijia Huang



Portfolio CONCLUSION

Further reflection

Blockchain Technology and the Reconfiguration of Art Ecosystems: From Conflict to Symbiosis in "Black Box"

The original science fiction story 'The Black Box' exposes the technological monopoly crisis in the art world: ECI Company uses the Black Box to plagiarise traditional craftsmanship and monopolise creative rights under the guise of 'environmental protection.' This narrative closely mirrors the current challenges facing the art market-centralised power, ambiguous copyright, and the marginalisation of creators. The decentralised, traceable, and smart contract features of blockchain technology offer a solution to counter the 'Black Box model.' This paper will explore how blockchain can redefine the three core dimensions of the art ecosystem through the lens of the story.

I. Artistic Origins and Copyright Protection: Unravelling the Plagiarism Mechanism of the "Black Box"

The science fiction narrative Black Box presents a dystopian scenario in which the ECI Corporation's automated waste processors systematically plagiarise the designs of traditional lacquerware craftsman Thomas Chen. This mirrors real-world controversies surrounding infringement of AI training data and ambiguous art copyright ownership in the digital age. This fictional exploitation is reflected in contemporary cases such as Stability AI's unauthorised use of artists' works to train datasets, highlighting the vulnerabilities of creative labour in technologically mediated ecosystems. Blockchain technology, particularly through non-fungible tokens (NFTs) and smart contracts, offers a robust countermeasure by establishing immutable provenance records and automated rights enforcement. Tokenizing each stage of Thomas's creative process – from initial sketches to layered lacquer application – on a timestamped blockchain ledger (akin to platforms like Snark.art) would create an unforgeable chain of authorship. Metadata attributing designs to 'Thomas Chen' would be permanently embedded, preventing the database theft depicted in the story's climax, when Lily uncovers systemic plagiarism. Furthermore, pre-programmed smart contracts could ensure ongoing compensation by mandating automatic royalty payments (e.g. 10% for secondary sales), even when works are replicated by the Black Box system. This would address the recurring issue of unremunerated copying that plagues both the fictional narrative and today's art market. The 2021 sale of Beeple's 'Everydays' NFT for \$69 million demonstrates the viability of this model, setting a precedent for how Thomas's physical lacquerware pieces could maintain verifiable authenticity through a 'physical fingerprint and digital certification' system, making technological appropriation economically unsustainable.

II. Decentralised Art Market: Countering the Monopoly of the "Black Box"

The Black Box narrative's portrayal of ECI monopolising artistic consumption via 'free' automated distributors mirrors the exclusionary economics of traditional art markets, where auction houses such as Sotheby's enforce 25% commission structures that marginalise independent creators. Blockchain technology dismantles these barriers through two transformative mechanisms: decentralised autonomous organisations (DAOs) and fractional ownership models. Within a DAO-structured art community, members could tokenize ECI's mass-produced 'junk art' (mirroring the story's 'protest mountain' of discarded machine artworks) and collectively vote on its repurposing or destruction via transparent smart contract governance. This would democratise the curation power that conventionally resides with elite galleries. Meanwhile, platforms such as SuperRare allow artists to transact with each other at a fee of less than 10%, which is a radical departure from the 40-50% taken by traditional intermediaries when combining gallery and auction costs. Fractionalisation further disrupts market concentration by enabling shared ownership of high-value pieces such as Thomas's lacquerware.

III. Human-Machine Symbiotic Creation: An Ethical Framework for Blockchain as the "New Black Box"

Thomas and his daughter Lily's transformation of ECI's exploitative Black Box into a 'Symbiosis Workstation' presents a visionary model for ethical human-AI collaboration in creative practice. This fictional evolution mirrors emerging blockchain-mediated co-creation frameworks, where distributed ledger technology establishes clear hierarchies of authorship while enabling productive human-machine partnerships. Through blockchain-authenticated creation logs, each intervention by Thomas during robotic-assisted carving would be recorded as a primary creative act, with AI operations relegated to secondary support functions. The system's transparency mechanisms would prevent ECI-style greenwashing by anchoring physical artworks to their ecological and cultural roots. Blockchain-orchestrated supply chains would document the coordinates of sustainable lacquer harvesting, the identities of the artisans involved, and the energy inputs at each production stage. This would create an auditable counter-narrative to corporate sustainability claims. This dual functionality – preserving both creative and material integrity – demonstrates how blockchain can transform oppressive technological black boxes into transparent ones, maintaining technological efficiency while eliminating ethical opacity. This paradigm shift redefines human-machine relations, transforming the extractive dynamic depicted in ECI's original model into a reciprocal ecosystem that honours both technological capability and irreplaceable human artistry.

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