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**HUI FENG**

Programmer



**GLENDON GUO**

Designer & Co-Producer



**BELLA LIN**

Designer & Artist



**NELSON NIE**

Researcher & Programmer



**ANJALI SHAH**

Co-Producer



**EIKO QU**

Artist



# OUR INSTRUCTORS



**HEATHER  
KELLEY**



**MOSHE  
MAHLER**



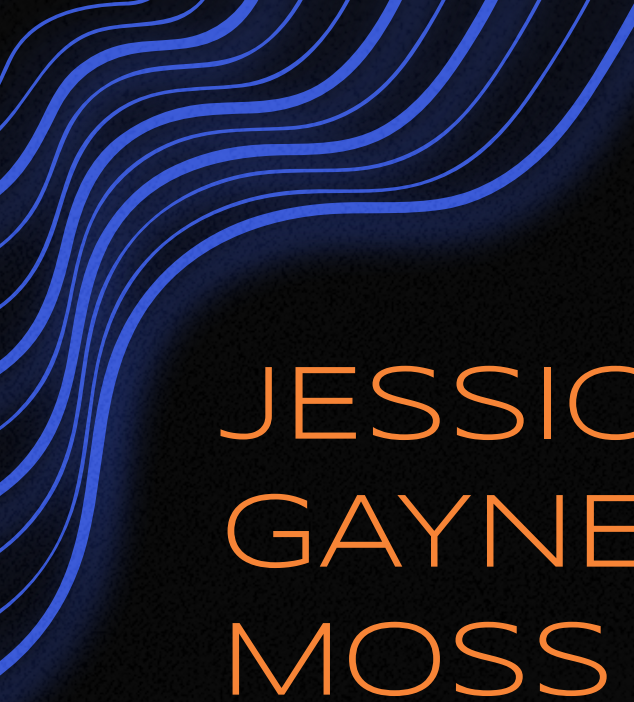
# OUR CLIENTS



# RENÉE COX

A photographer, artist, lecturer, and  
political activist





# JESSICA GAYNELLE MOSS

An artist, independent curator  
and arts consultant







**Mattress Factory**

art you can get into

A contemporary art museum located in Pittsburgh.



# PROJECT GOALS



## ART WORK

Integrate the artist's own art piece with modern interactive technology



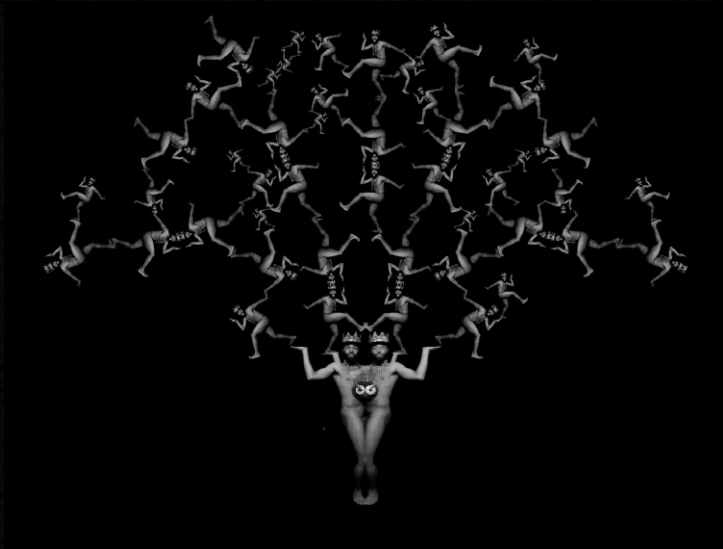
## IMMERSIVE

Create an immersive and inclusive space in the artist's art style

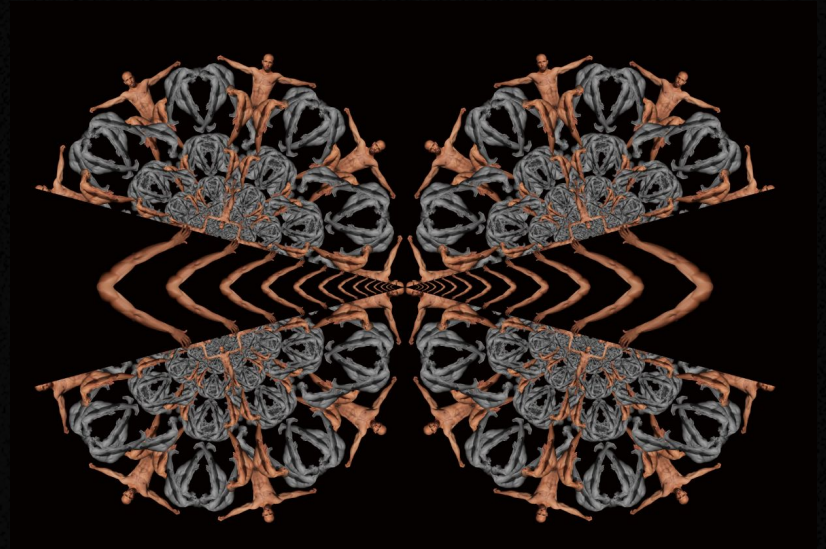




Source Artwork



*Learning Tree*  
Renée Cox  
2022



*Pac-Man a savoir*  
Renée Cox  
2022

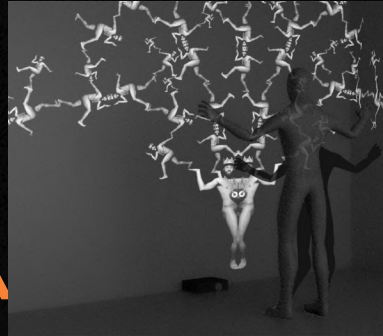




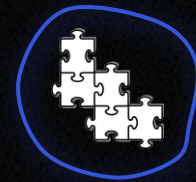
# EXPERIENCE GOALS



**EMBODIMENT**



**A**



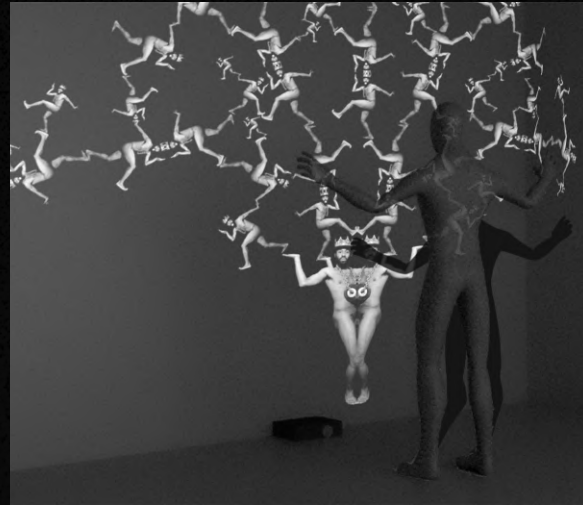
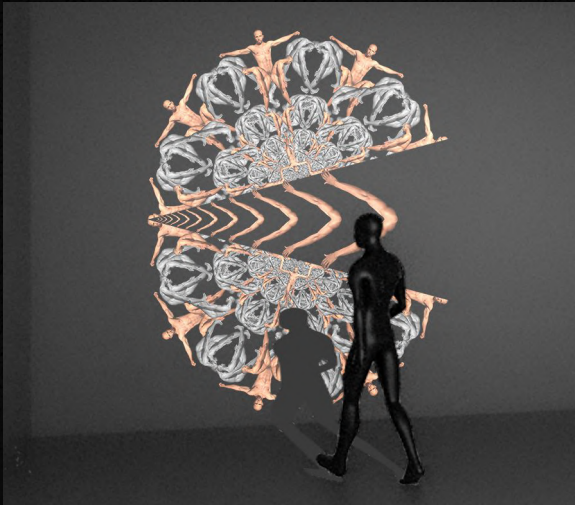
**AUGMENT**







# INTERACTIONS

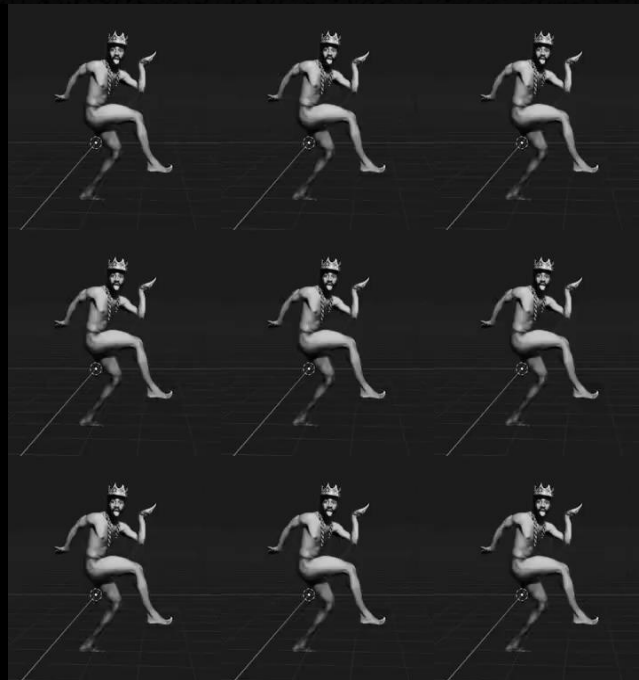




Tree Generation



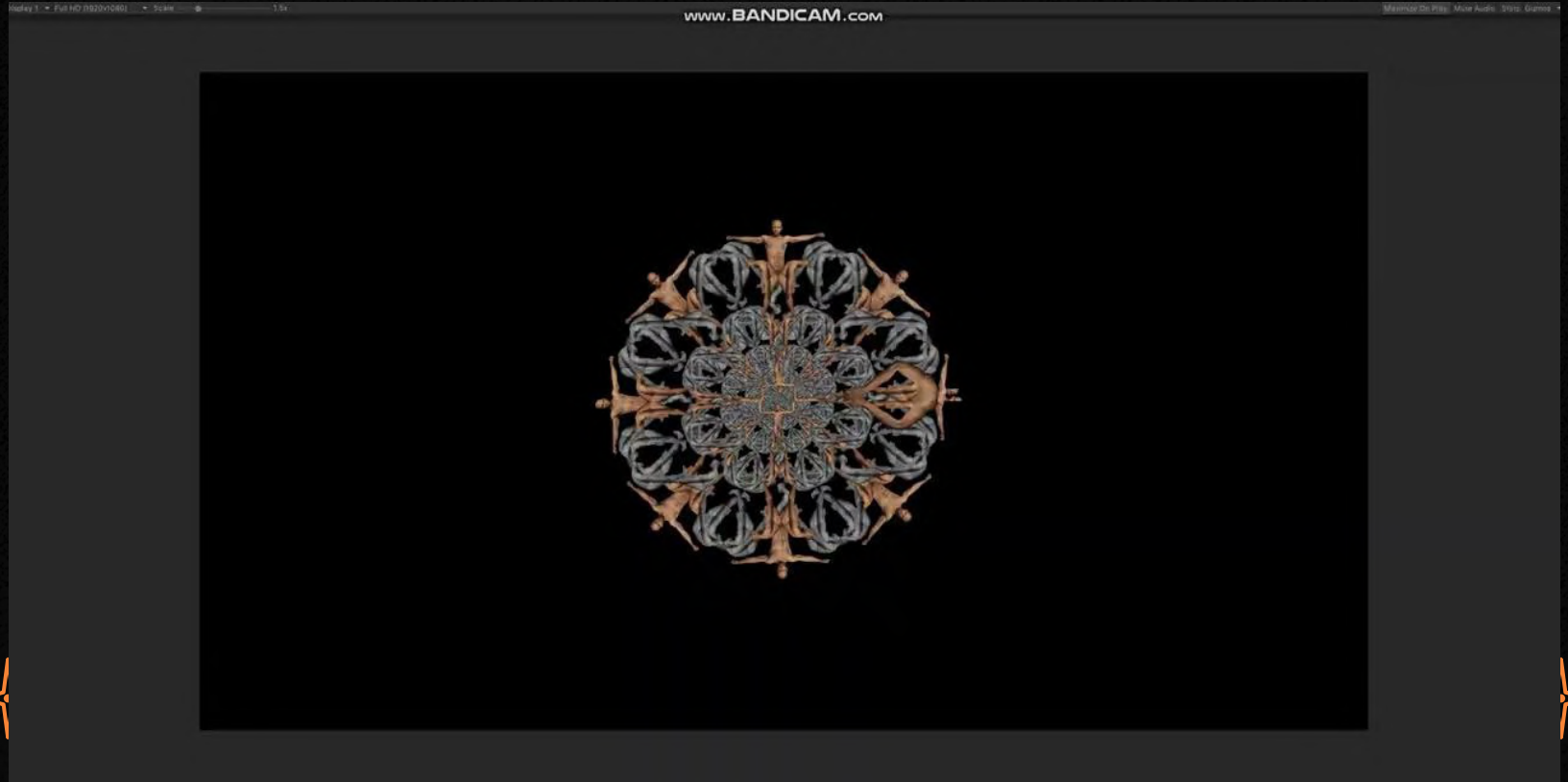
Man Struggle







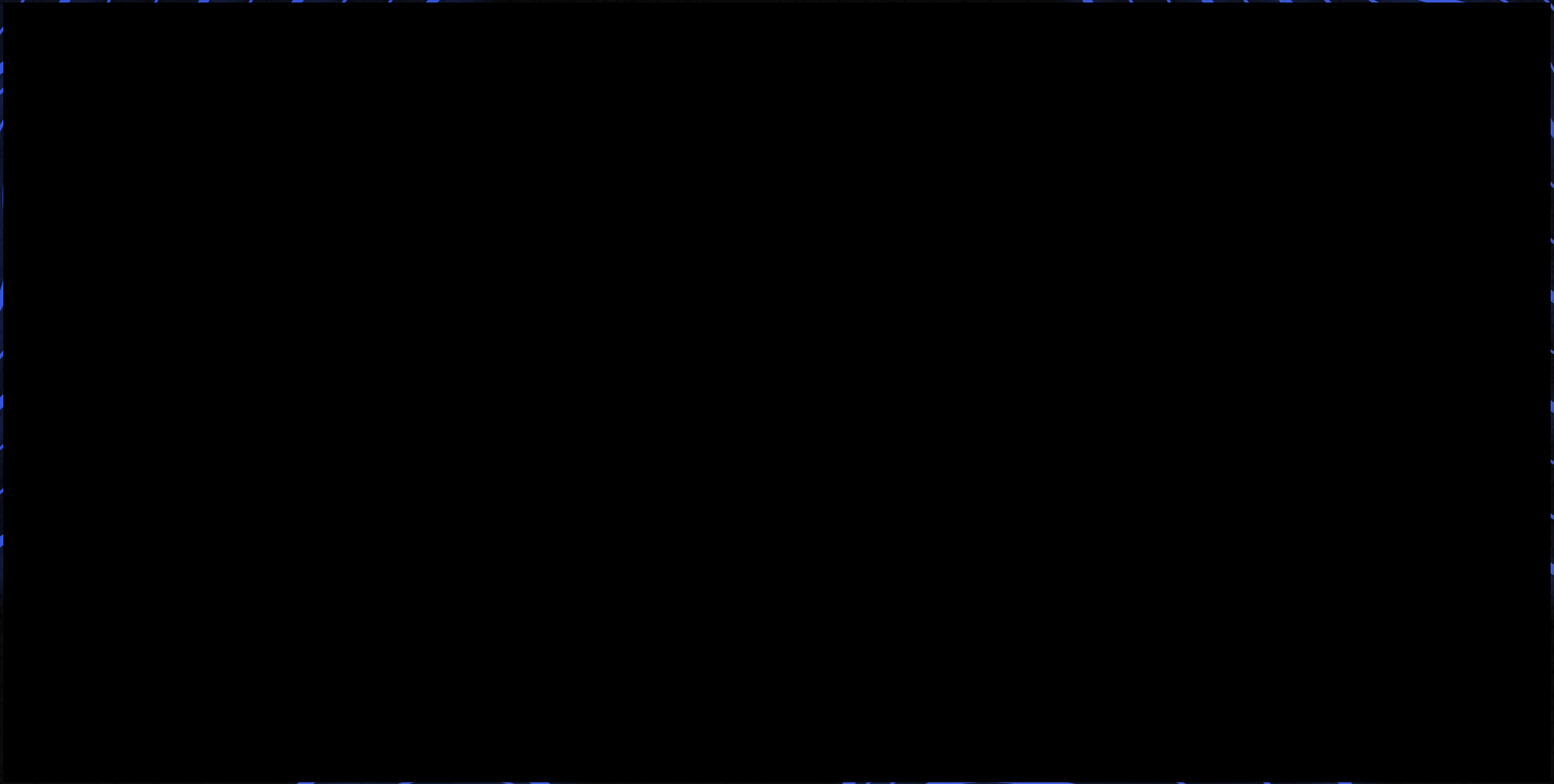
# Pacman Opening & Closing





DEMO











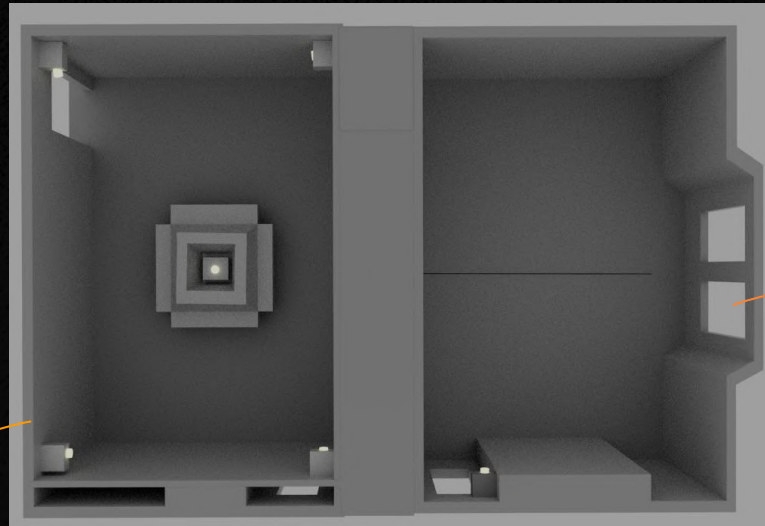
# DELIVERABLE

A physical exhibition at the  
Mattress Factory's Annex Gallery

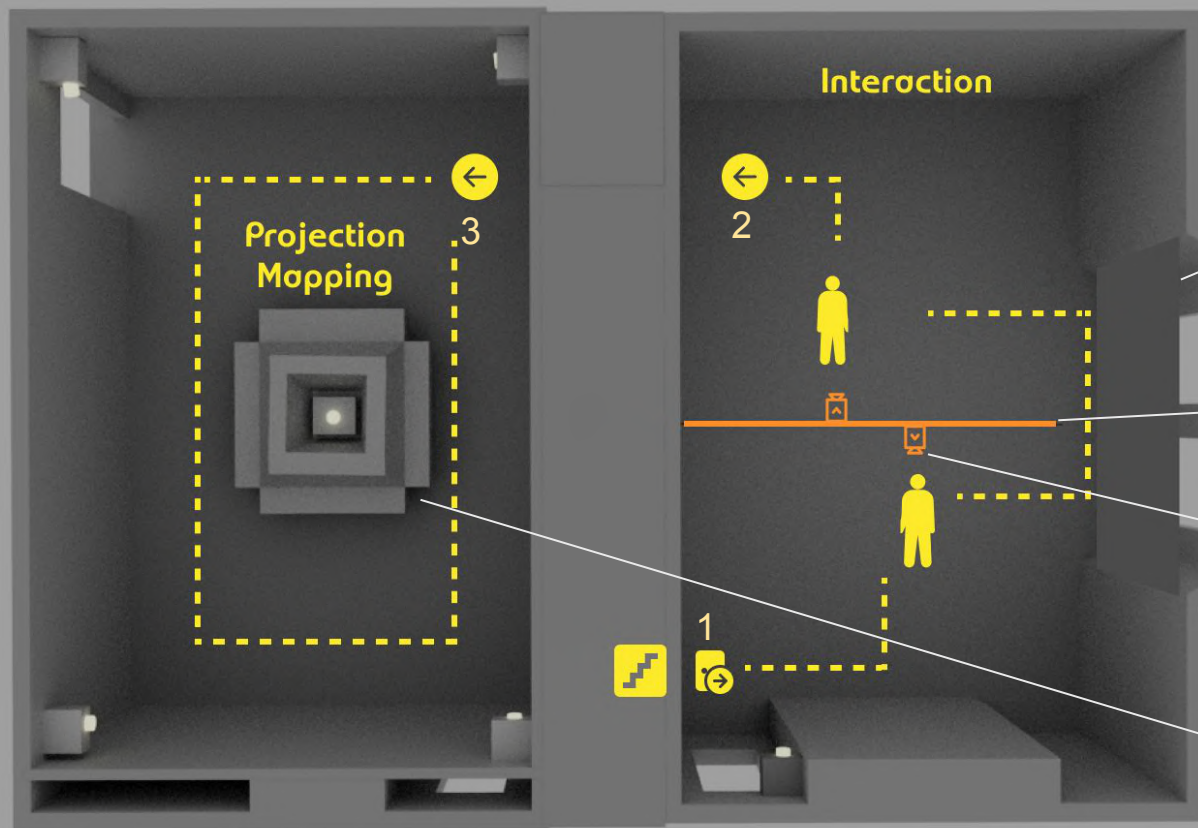
# 3RD FLOOR OF ANNEX GALLERY

INTERACTIVE  
PIECE

PROJECTION  
MAPPING





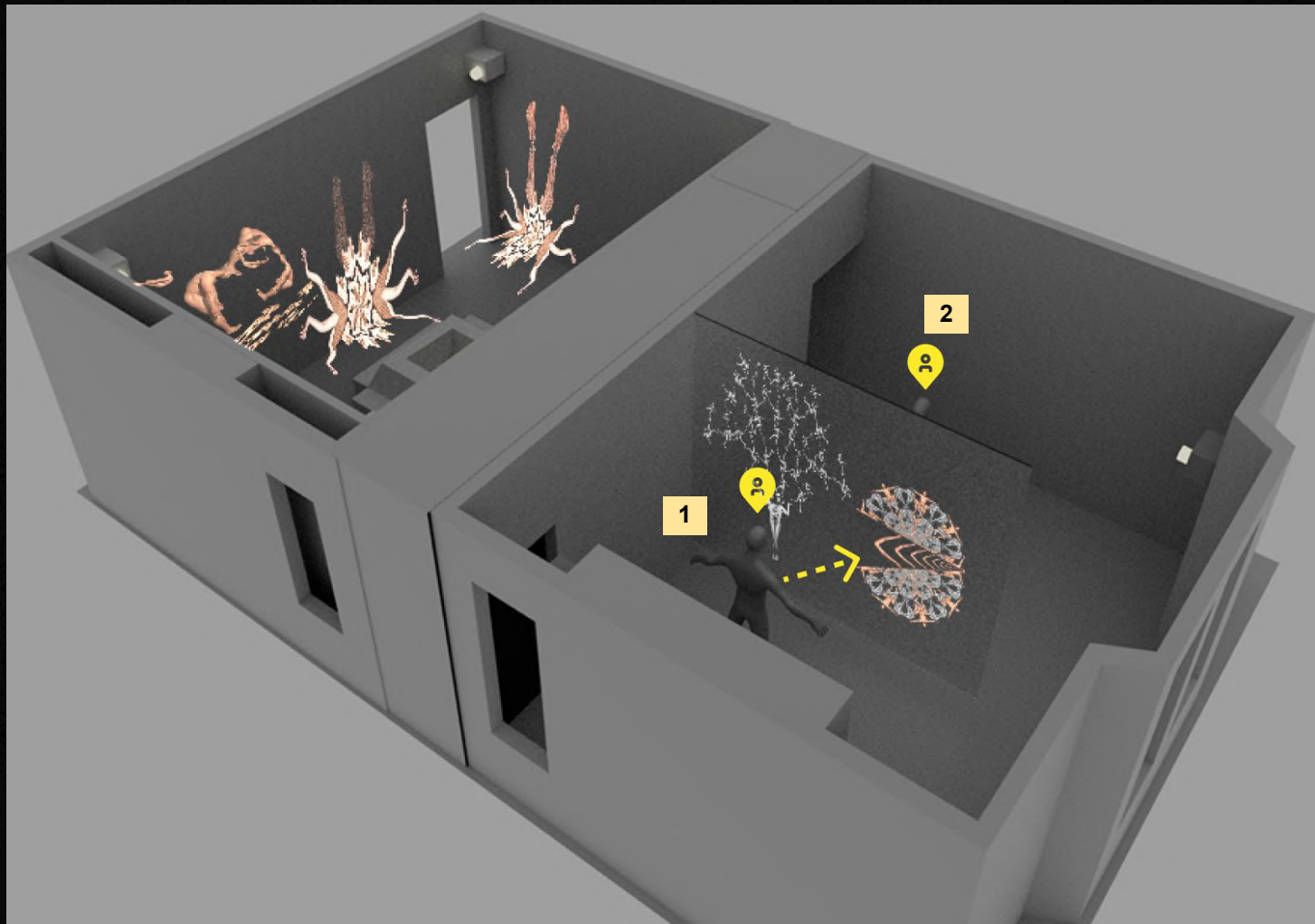


Barrier Wall

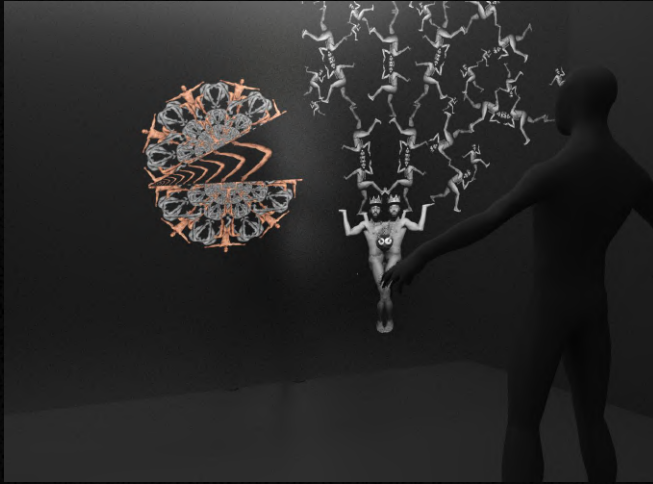
Film

Kinects

Bench



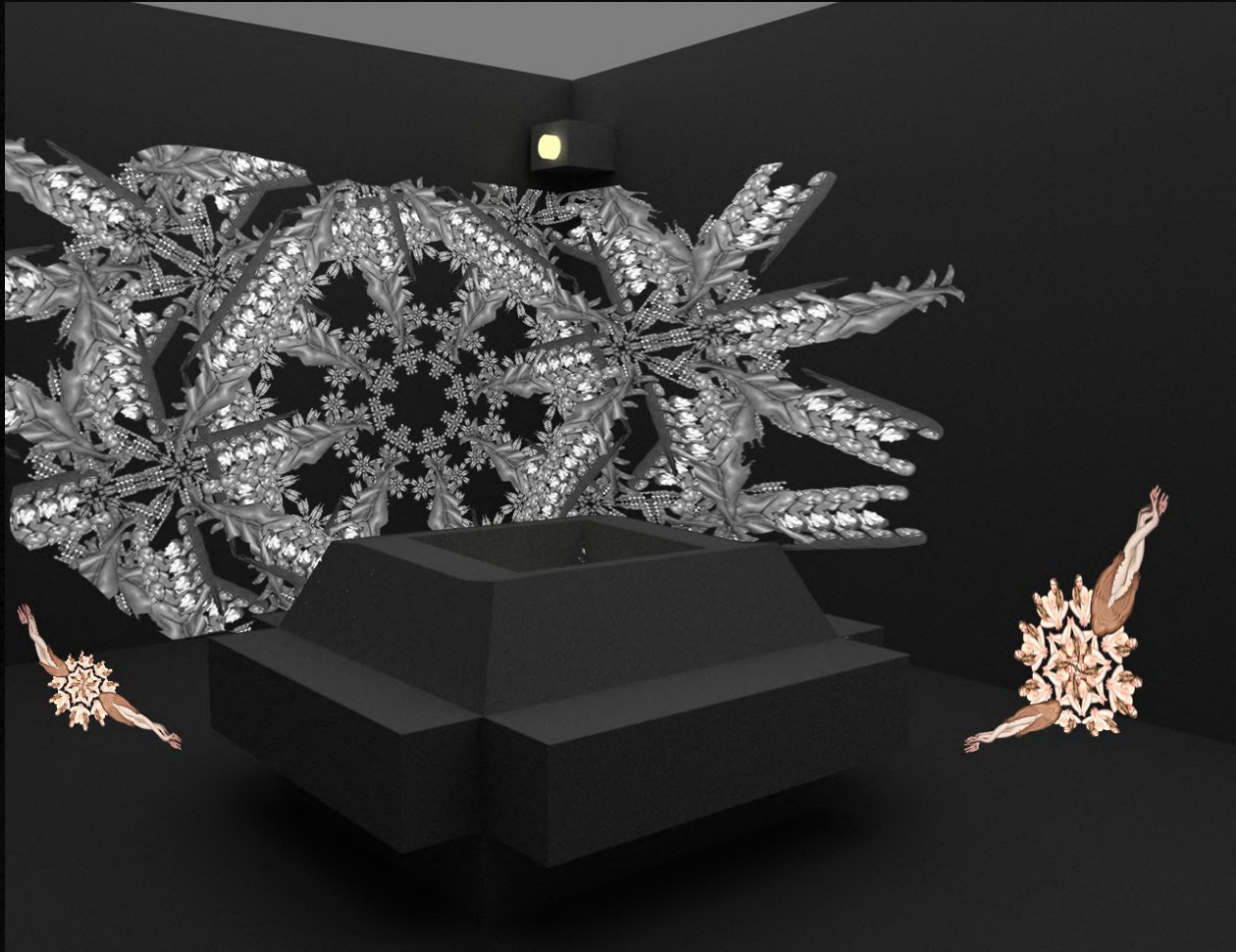




1

2









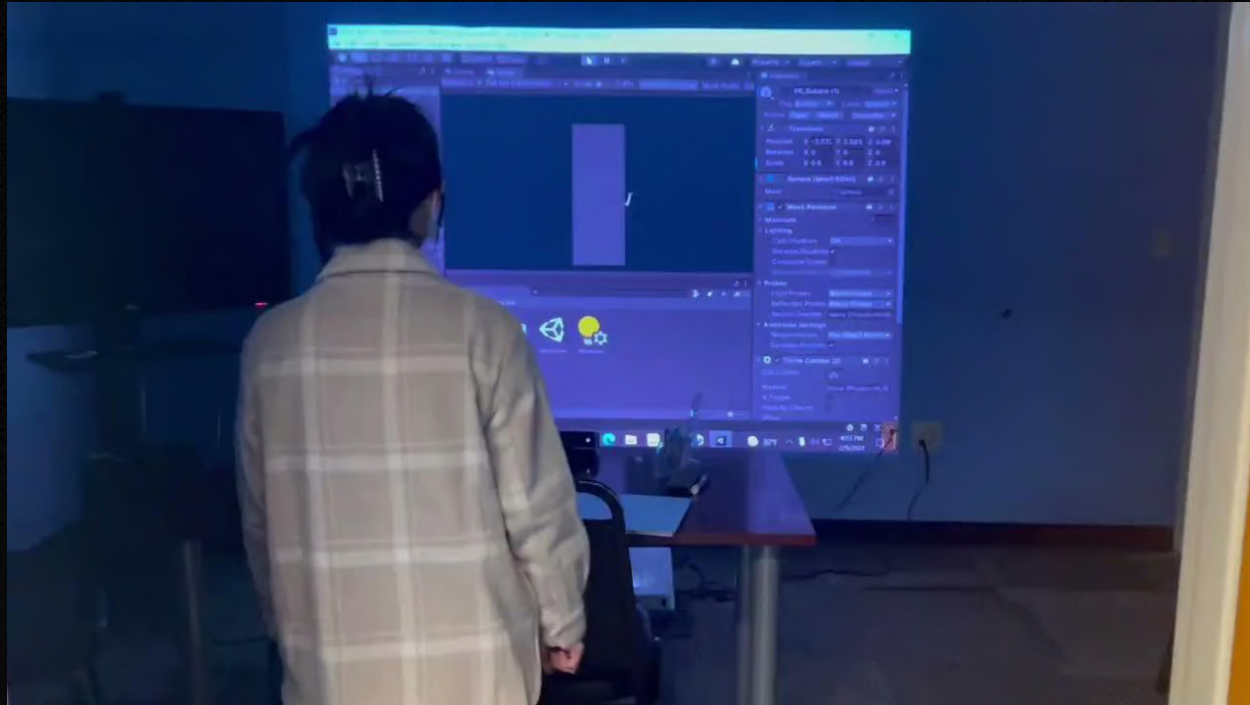
TECH



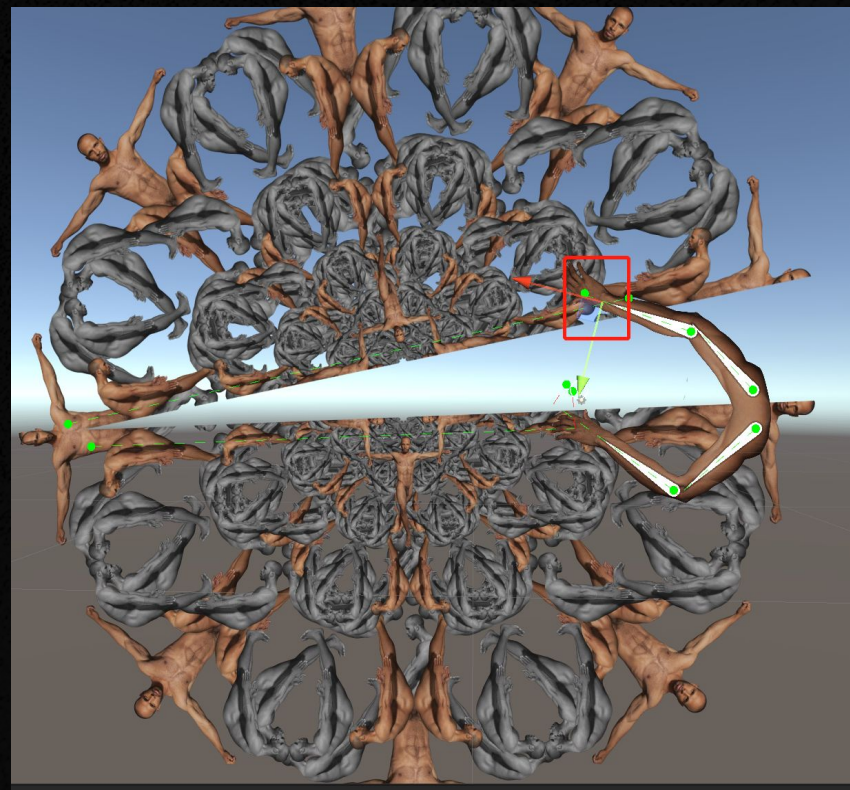
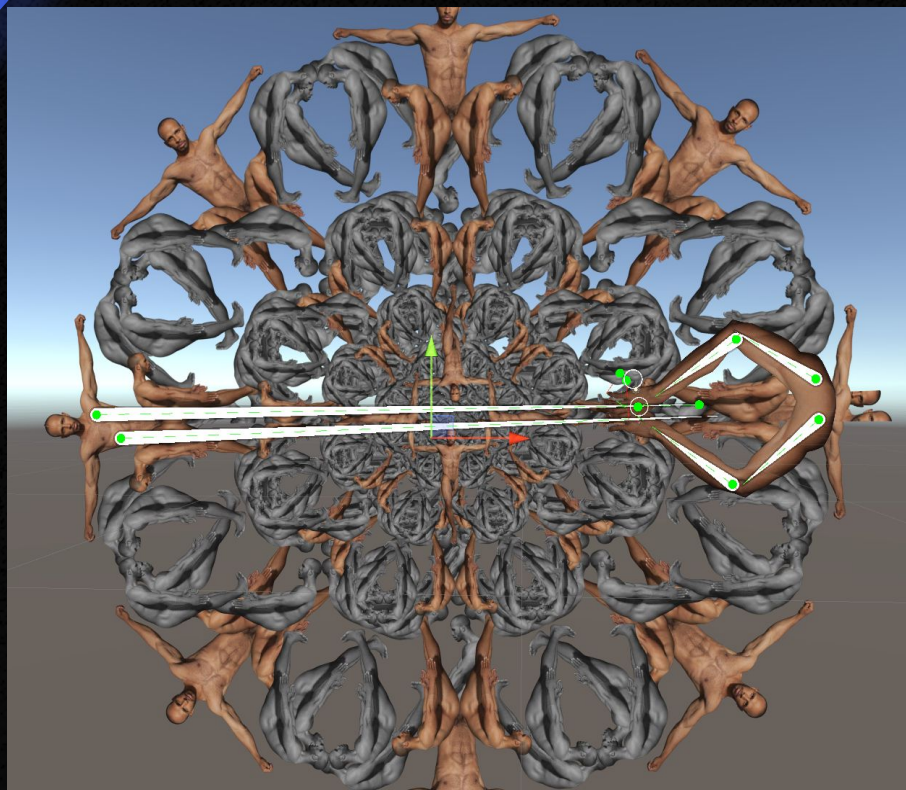
# PROJECTOR + KINECT



# INTERACTION DETAILS



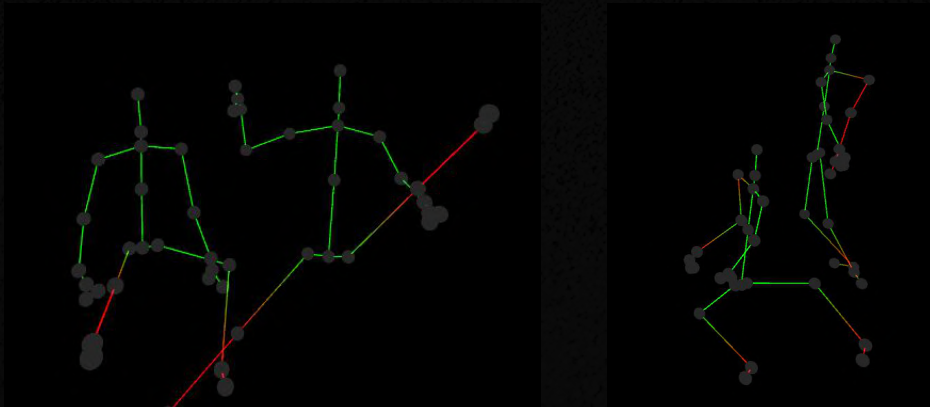






# FAILURE CASES

- **Kinect 2: Detect error**
  - Multiple skeleton detection
  - Can not see parts of body
  - Can not detect people when too close



# FAILURE CASES

- **Tracking performance:**
  - Darker environment, cloth or skin
  - Lose track of shoulders and hips
- **Kinect problem:**
  - Multiple Kinect 2 in Unity
  - Synchronize multiple Azure Kinect

# AZURE KINECT VS KINECT 2

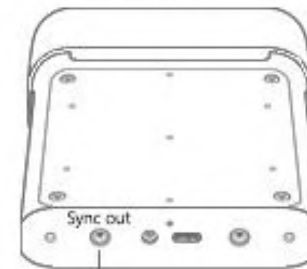
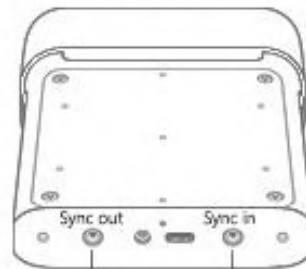
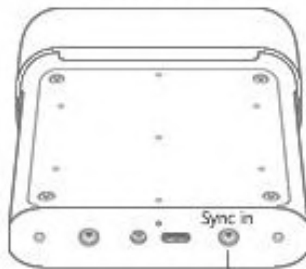
- TOF sensor.
- Unity API with avateering, body tracking, and more.  
Built-in synchronization.
- Built-in IMU, stream mapping, microphones, adjustable FOV.



Subordinate 2

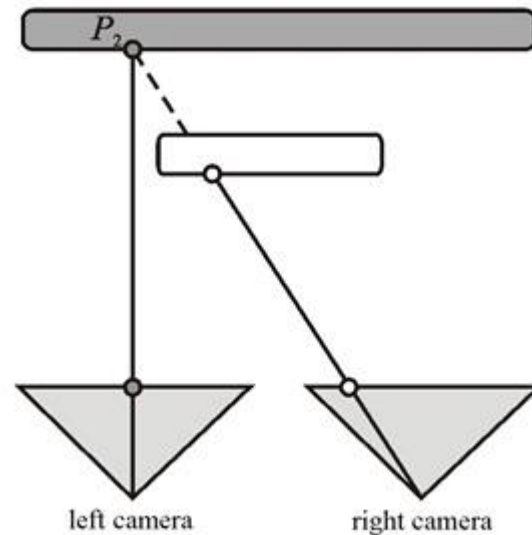
Subordinate 1

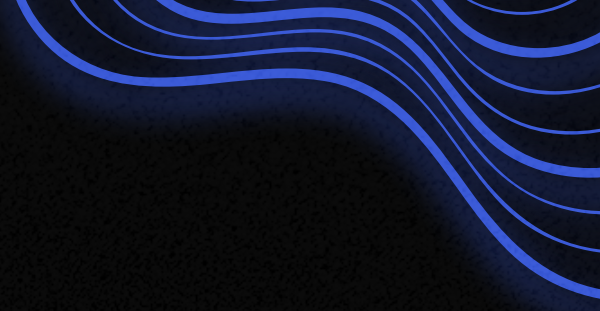
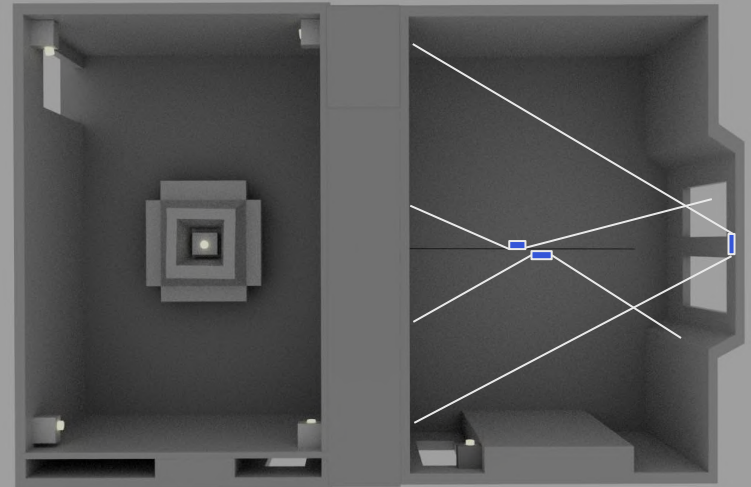
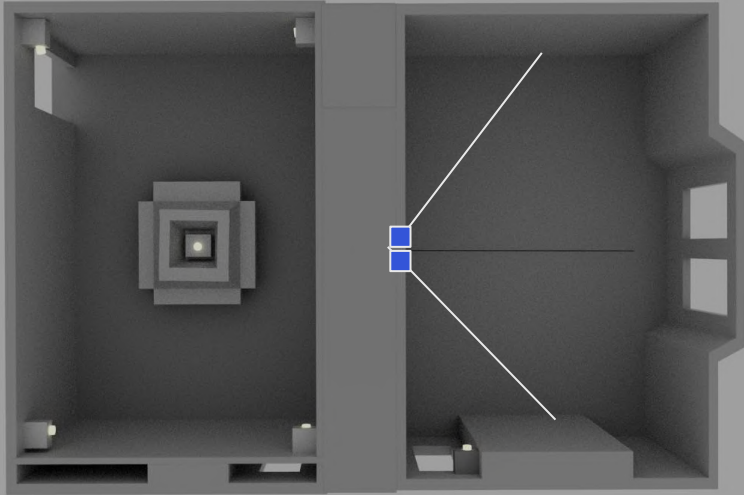
Master



3.5mm audio cable

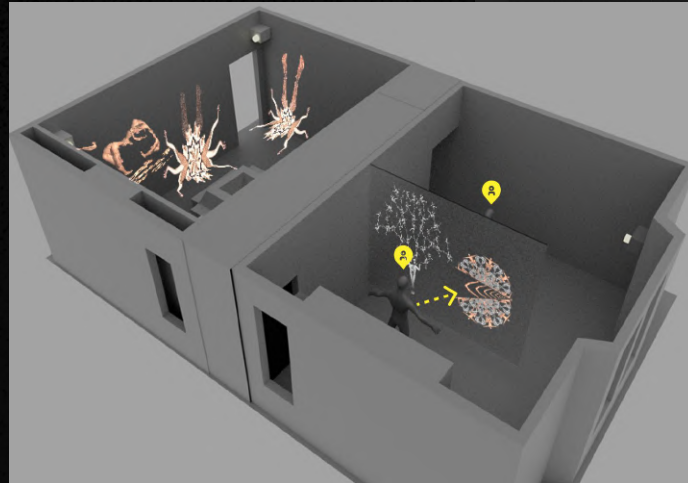
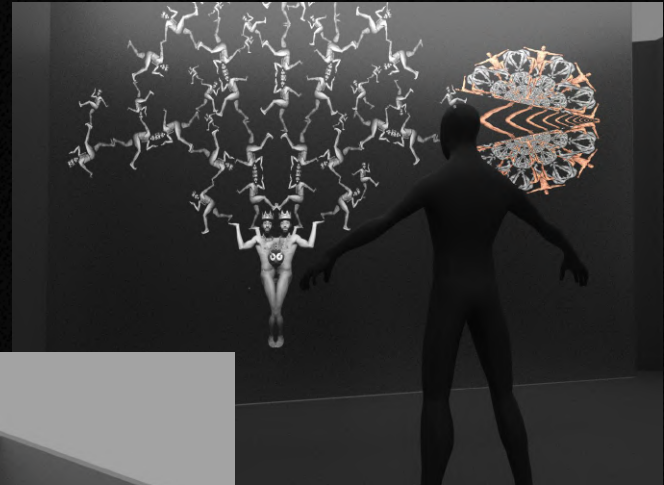
3.5mm audio cable





# ✦ SUMMARY

- Immersive & interactive exhibit
- Based on the works of Renee Cox
- Installed at the Mattress Factory museum
- Using Projectors & Azure Kinect
- Narrating the story of lynching of Black Americans



QUESTIONS?



## Week 1-6

- Interaction prototypes
- Tech research
- Narrative design
- Spatial design
- Guest experience

## Week 7-12

- Complete animation
- Develop interaction
- Build mock space at ETC
- Test & iterate weekly

## Week 13-16

- Polish the final product
- Handoff documentation
- Install exhibit at TMF