Major Project 1

proposal form

about the project

Your names:

/////

Proposed name of the project:

The AI Gaze: Privacy in a Digital Age.

Describe your project using five keywords:

Virtual Reality, AI's Evolutionary Horizon, Privacy, Public-Private Space Boundaries, Autonomy.

Provide a short summary of the proposed project:

(100 words maximum)

In this project, I embark on an exploration of how AI's capabilities intersect with issues of privacy. By employing AI to infer personal details and recreate living spaces from publicly available data, I aim to inspect the ethical concerns surrounding privacy and consent in our technologically advanced era. It encourages viewers to reflect the profound and potentially precarious impact of AI on our privacy, identity, and the integrity of our personal boundaries. Through this project, I engage the audience in a speculative future where AI's pervasive influence challenges our traditional notions of privacy and public, urging us to reconsider the evolving role of AI in shaping the narrative of privacy and ethics in our digitally interconnected society.

about the project

provide a detailed description of the proposed project:

(250 words)

what is the concept/subject matter/theme that you explore? what is the motivation behind your project? what are the medium(s) in which you will work? what are the methodologies that you would be employing?

In my project, I explore the concept of AI reconstructing a person's comprehensive profile, including sensitive personal information, from a single image. This idea draws inspiration from dystopian novels like "1984" and "Brave New World," which depict futures where surveillance and technology lead to a loss of privacy and individuality. My aim is to highlight the growing capabilities of AI and their implications for privacy and identity, sparking ethical discussions.

Sol Lewitt's methodology, emphasizing machine-created work, influences my approach. I use Google Street View to randomly select pedestrians, then employ Stable Diffusion and ChatGPT to create educated guesses about their lives, forming the basis of my art. I aim to create virtual environments using various software tools, potentially incorporating mixed media to fully realize my conceptual ideas.

The project also investigates the equivalence of virtual and physical reality, reflecting on how AI's intrusion into our privacy mirrors philosophical debates about virtual reality (VR). I argue that AI-created VR is not just a digital construct but a reflection of our current or potential future reality. This blurs the lines between reality and virtuality, underscoring the impact of AI on our lives and freedoms.

structure

Interm Show	**4 -- 8 March**
Workfinished by	**2 April**
MP Deadline	**3 May**
Final Showcase	**13 -- 22 May**

timeline and milestones

include a breakdown of the plan and milestones of the proposed project. consider the tasks, processes or activities necessary to complete in order to create the suggested body of work.

Phase 1: Conceptualization.	Auguest 2023 -- September 2023	Clear project concept and objectives.
Phase 2: Mini-Project.	October 2023 -- January 2024	Completed VR mini-project.
Phase 3: Design and photo shooting	February 2024 -- March 2024	Design and narrative blueprint ready.
Phase 4: Digital Creation.	February/March 2024 -- April 2024	All VR environments modeled and ready for integration.
Phase 5: Audio and Technical Integration.	26th April 2024 Deadline: 3rd May	Functional VR prototype with integrated audio.

start date	end date	activity or task details:
Early Auguest 2023	Sepetember 2023	Week 1: Ideation sessions for main project theme and objectives. Week 2: Define specific outcomes.
Sepetember 1st 2023	November 1st 2023	Learning VR Basics and Initial Sound Work Week 1 - 2: Start exploring field recording techniques and equipment. Record various sounds from the environment (e.g., nature, city sounds). Week 3 - 4: Begin basic tutorials on Unity/Unreal Engine for VR.
November 1st 2023	December 1st 2024	Advanced VR Learning and Modling Exprimenting Week 1 - 2: Continue VR studing; start experimenting with basic 3D models. Week 3: Learn basic VR in UnrealEngine. Week 4: Develop a simple VR environment incorporating your sound edits.
December 1st 2023	January 1st 2024	Week 1-2: Develop a VR mini-project, incorporating simple interactive elements. (Purely as an experimental purpose and test my skill set.) Week 3: Exploring AI image generator (Dall-E, Midjourney, Stable Diffusion [Web-UI, Comfy-UI], etc.) Week 4: Refine the mini-project based on initial testing. Final testing and reflection on lessons learned.
January 1st 2024	February 1st 2024	Week 1-2: Finding reference from Google Earth, use the coordinate generator to get the location. Week 3-4: Using Stable Diffusion to imagine the face of the chosen character and generate virtual washrooms based on the chosen character.
February 1st 2024	March 1st 2024	Week 1: Start 3D modeling for the first virtual washroom (props, wall base, etc.). Week 2: Texturing, Baking. Week 3-4: Develop additional virtual washroom models.

structure

start date	end date	activity or task details:
March 1st 2024	April 1st 2024	Week 1: Finalize all 3D models with digital integrations. User feedbak and testing for mid term show. Week 2: Field recording for specific VR environment sounds. Week 3 - 4: Edit and integrate audio; begin VR programming.
April1st 2024	April 26th 2024	Feedback analysis and final adjustments.

structure

budget

add the expenditure and appropriate details of your proposed project on this page. Provide information about the quotes for services/products/fees in the description field.

description	amount
VR Headset (Quest Pro)	1500
Recorder (Zoom 6)	320
Microphone: CONTACT MICROPHONES HYDROPHONES COIL PICK-UP'S FOR ELECTROMAGNETIC RECORDING	231
FL Studio	499
Other Software	1000
A powerful compter (Running the VR)	2000 - 4000
Installation Accessories (cable, stand etc.)	500

TOTAL COST	$ 8000

practice-based experiments

Describe the developmental opportunities, experiments and processes you have undertaken, what did you get out of them, and how will you use them to support your proposed project.

(200 words maximum)

I've been on quite a journey getting ready for my project. It's been a mix of diving into VR tech and getting into creative with sound. This journey began with intensive learning in virtual reality development, where I engaged with VR software like Unreal Engine, culminating in the creation of a mini VR project that honed my skills in 3D modeling and interactive design. On the sound side, I delved into the realms of field sound recording and editing, crafting immersive audio landscapes that will greatly enhance the sensory experience of the virtual environments I plan to create. Through the mini-project phase, which also included developing proficiency in digital art and design, I have amassed a suite of skills for making the final project.

What are the main risks and challenges to your project meeting its aims? What will you do to manage these risks?

(100 words maximum)

The challenges of this project could be the steep learning curve in VR development, a field known for its technical complexity. This requires dedicated time for leaning skills. Time management is another critical aspect. It is therefore necessary to adopt a detailed project management approach with clear milestones and the flexibility to adjust them when required. The budget constraints are also a problem that needs to be addressing by cutting costs. To ensure a high quality of the final product, it is necessary to make repeated testing and improvements. However, the limited time available remains a very tricky issue.

practice-based experiments

Include examples of your practice-based experiments, that you have developed during this project.

(add to this pdf between 20-30 pages)

include photographs, screenshots, process images, texts, notes, references, links to videos, audio files or other files.

Practice-based Expriments

Yaoqing Han

Instructions for Selecting Pedestrians from Google Maps Street View for Artistic Interpretation:

1-Region Selection:

Choose a specific region, city, or area of interest.

2-Random Street Selection:

Within the chosen region, a street or location must be randomly selected. This may be facilitated by any method that incorporates chance. (I used python to write a coordinate generator for this project.)

3-Accessing Street View:

The generated coordinates are to be entered into Google Maps Street View. If street view is unavailable at the chosen location, please repeat step 2 for a new selection.

4-Directional Navigation:

Navigate through the Street View imagery follow the directions (e.g., north, south, east, west), virtual 'steps' as provided by the generator. These parameters should be randomly determined to remove personal bias or choice from the process.

5-Pedestrian Selection:

The first pedestrian encountered following the completion of the navigation steps is to be selected as the subject. If no pedestrian is found, return to step 2 for a new set of coordinates.

6-AI Image Generation:

Use AI to reconstruct the blurred face of the selected pedestrian, based solely on the pedestrian's visible attire and the surrounding context.

7-AI Observation and Imaginative Projection:

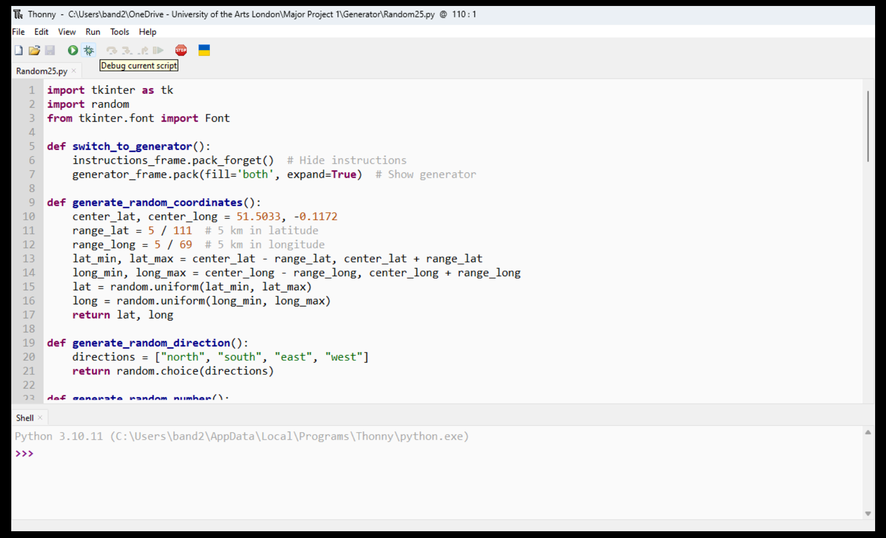
Document the pedestrian's location, attire, and immediate surroundings. ChatGPT should them be used to make guesses about the pedestrian's potential living space based on these details.

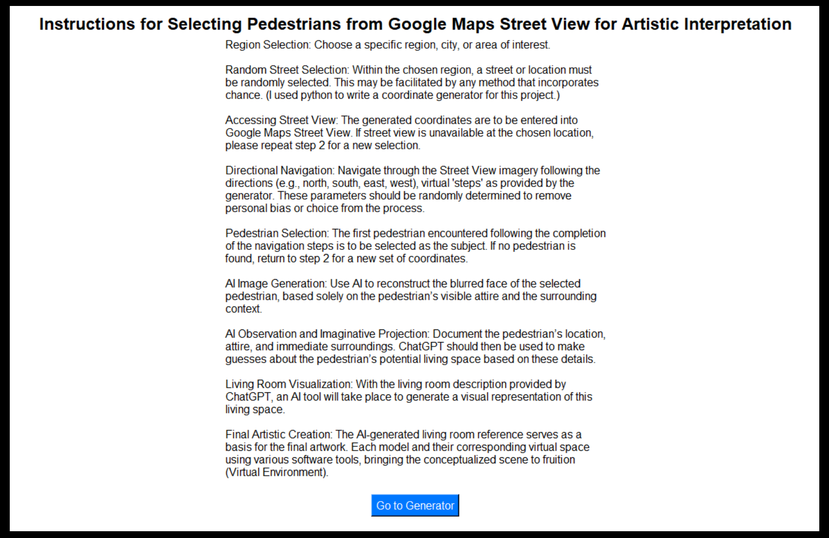
8-Living Room Visualization:

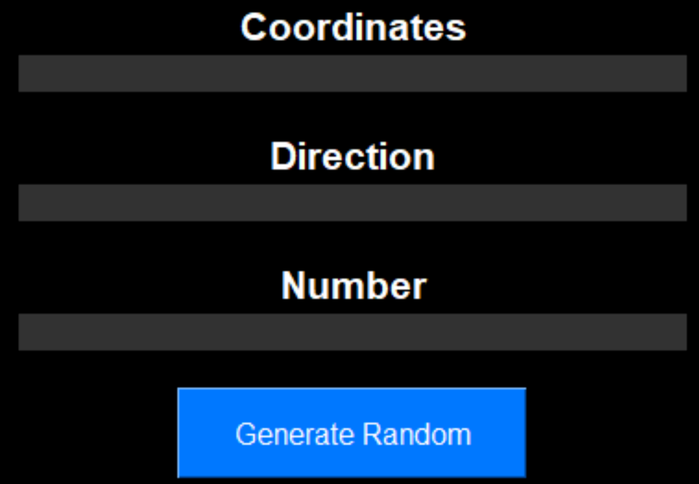
With the living room description provided by ChatGPT, AI tool will take place to generate a visual representation of this living space.

9-Final Artistic Creation:

The AI-generated living room reference serves as a basis for the final artwork. Each model and their corresponding virtual space using various software tools, bringing the conceptualized scene to fruition (Virtual Environment).



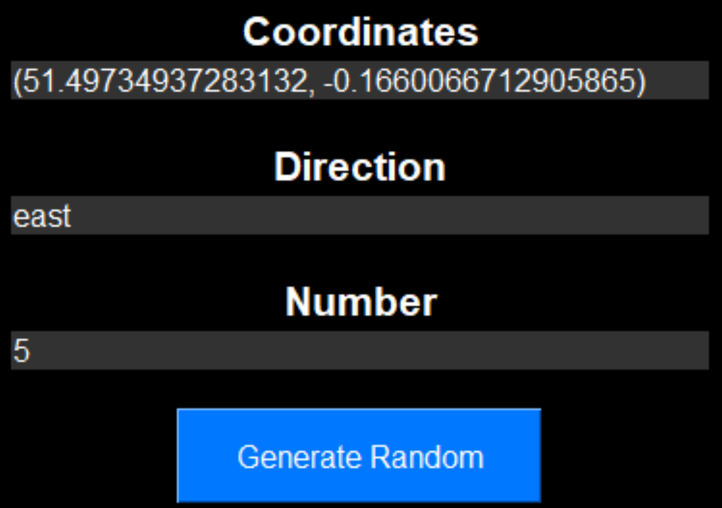




The above two images feature a coordinate generator that using python which includes a text document with a set of instructions for an artistic project that involves the instructions for a multi-step process that includes selecting a region, generating random street coordinates, navigating Street View, and choosing a pedestrian as a subject for artistic creation.

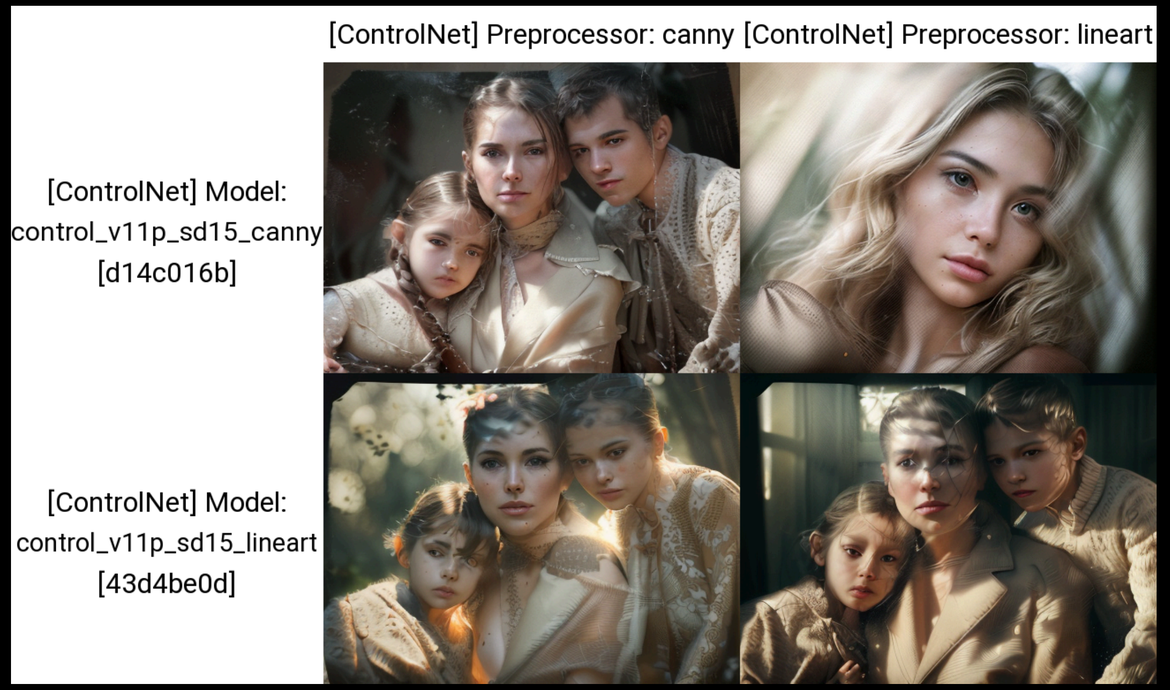
The images on the right, shows a simple, dark interface of a custom-made coordinate generator after the user click the go to generator button of the first page. It has text fields for "Coordinates," "Direction," and "Number," with a blue "Generate Random" button below them. This tool can aid in the random selection processes described in the first image.

The last image on the right displays the same coordinate generator interface as in the second image, but with values generated after the user click the generate button. It shows a set of latitude and longitude coordinates, a direction ("east"), and a number ("5"), that can be used in the project.



Face Swap Capabilities in AI: Technical Exprimetns:







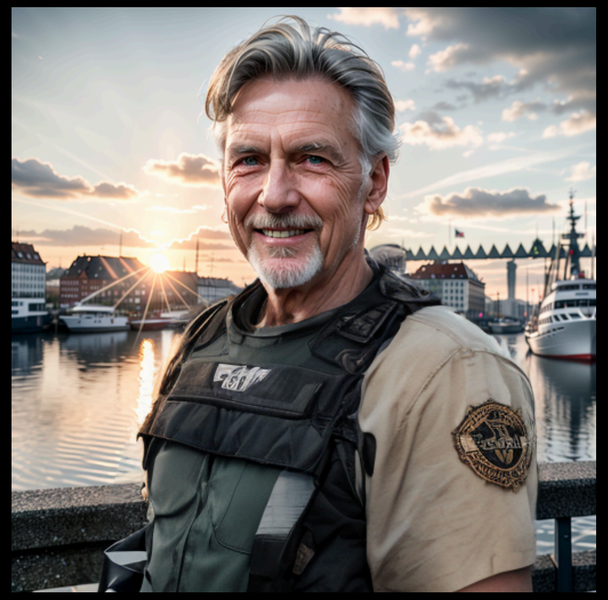
This slide presents a series of images that demonstrate the test in AI powered image processing using Stable Diffusion. The focus of this test is on the AI's ability to perform face swaps while maintaining the original structure and pose of the subjects in the photograph.

At the core of this test lies a vintage photograph. The AI is tasked with swapping these faces based on different prompts, simulating a restoration process. The images produced through different models and preprocessors showcase the AI's proficiency in not just face swapping, but in doing so with a degree of nuance that preserves the original composition of the photograph.

Please note, this is just a technical experimental and does not represent the finalized work.










Please note, this is just a technical experimental and does not represent the finalized work.

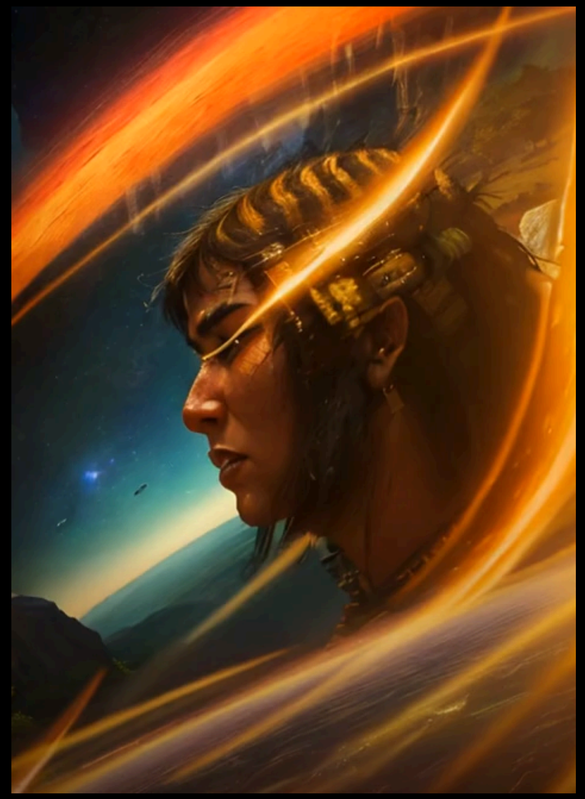
AI Video Generation Technical Experiments:

First Experiment



https://drive.google.com/file/d/1yG6af0ujhQu0QGX9MWlBDu7v67qUyALy/view?usp=drive_link

Second Experiment



https://drive.google.com/file/d/1_nLLjucgtDEUoDMmff7AyTv4rz5CgV54/view?usp=drive_link

Third Experiment



https://drive.google.com/file/d/14zSErhagShNf04Gk_HsyPySC6zk_PE6b/view?usp=drive_link

Here are some experiments with AI-generated videos using Stable Diffusion. Each links to a video representing a unique experiment that I did while testing the stable diffusion ai.

Please note, this is just a technical experimental and does not represent the finalized work.

Restoring Faces with AI: Stable Diffusion:





The image showcases a remarkable application of Stable Diffusion, an AI image generator, in painting a blurred face to clear definition. These images show a sequence of frames that progressively illustrate the AI's capability to enhance and clarify visual information.

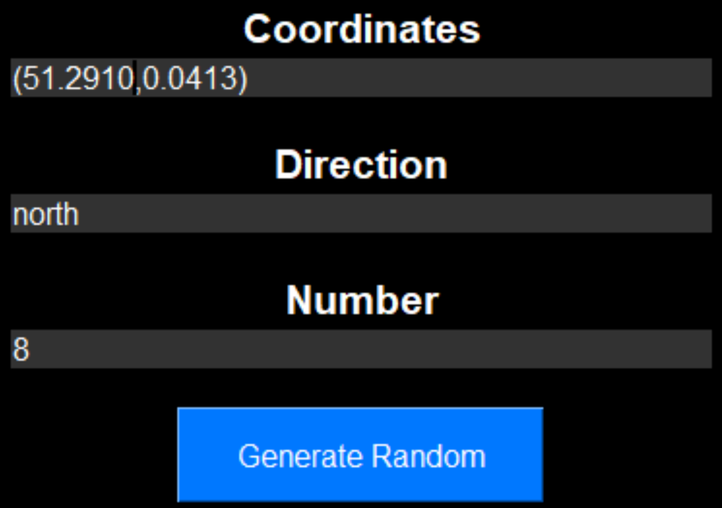
Initially, the subject's face is obscured, making identification challenging. However, as the Stable Diffusion AI works through the image, we observe a step-by-step transformation. Through the AI's algorithms, each subsequent frame reveals more details, forming in a final image where the subject's face is restored with remarkable clarity.

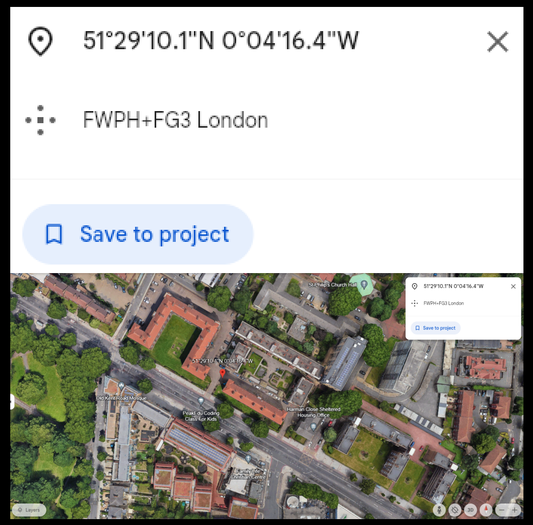
While this technology heralds significant advancements in fields such as digital forensics and historical preservation, it also raises critical discussions about the potential risks and ethical considerations of AI in the future.

Basic Workflow of Finding Pedestrians and Restoring Face (#1):





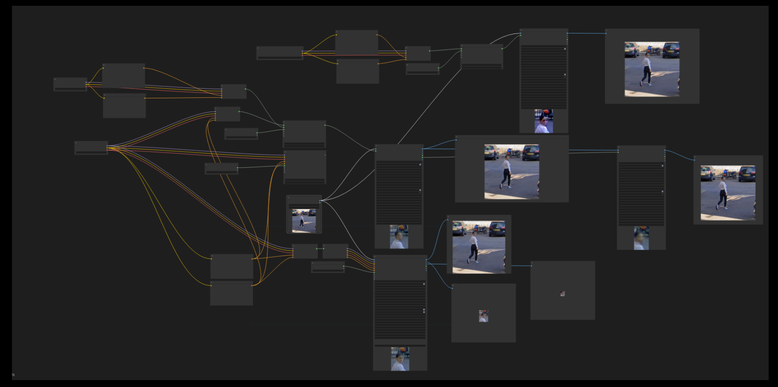


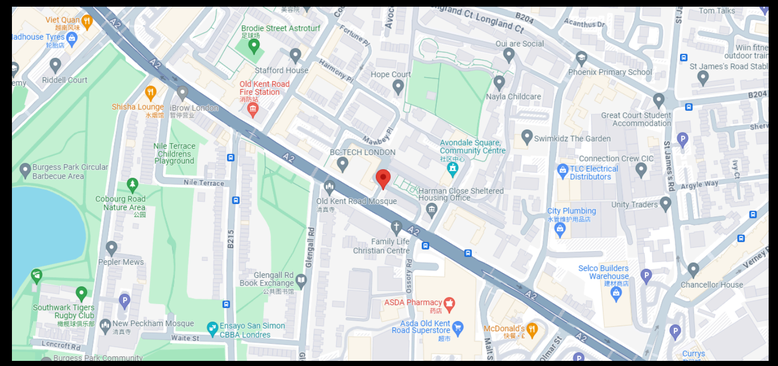


The workflow begins with using the 'Random Generator' to generate random coordinates within London. These coordinates are then cross-referenced in Google Earth to obtain the exact postcode for the targeted location, setting the stage for the next phase.

The next step involves using Google Street View to capture a snapshot of a pedestrian randomly located at these coordinates, who becomes the focal point of the artistic endeavor. Further processing and face restoration is done through an Ai engine called Stable Diffusion.

Further down the line, ChatGPT is introduced to make guesses about the lifestyle, background, occupation, etc., of the restored figure and imagine what his/her living environment would be like.





Basic Workflow of Finding Pedestrians and Restoring Face (#1):

Name: Isla Bennett.

Occupation: Freelance Graphic Designer.

Lifestyle and Background:

Isla Bennett is a talented freelance graphic designer living in the heart of London. She's known for her minimalist style, which reflects in both her work and personal life. Isla has a small studio apartment in Walworth, a vibrant neighborhood that offers a mix of cultural diversity and modern city vibes. Her space is decorated with sleek, modern furniture and splashes of vibrant colors through her own artwork that adorns the walls.

Every morning, Isla enjoys a brisk walk through Burgess Park, where she gathers inspiration from nature and the urban landscape for her projects. Her clients include small startups and local businesses looking for a fresh, modern branding approach. Isla is also passionate about sustainability and often volunteers her design services to environmental NGOs.

Her lifestyle is a blend of disciplined work hours and spontaneous adventures around the city. Evenings might find her exploring the latest art exhibition, attending a design workshop, or enjoying live music at a cozy pub with friends. Despite her busy schedule, she always makes time for her weekly yoga class and her book club meetings, where she enjoys discussions on everything from classic literature to contemporary fiction. On weekends, Isla loves to escape the city bustle on her vintage motorcycle, exploring the English countryside or hunting for treasures at antique markets. Her friends admire her for her independence, creativity, and her ability to find beauty in the simplest things.

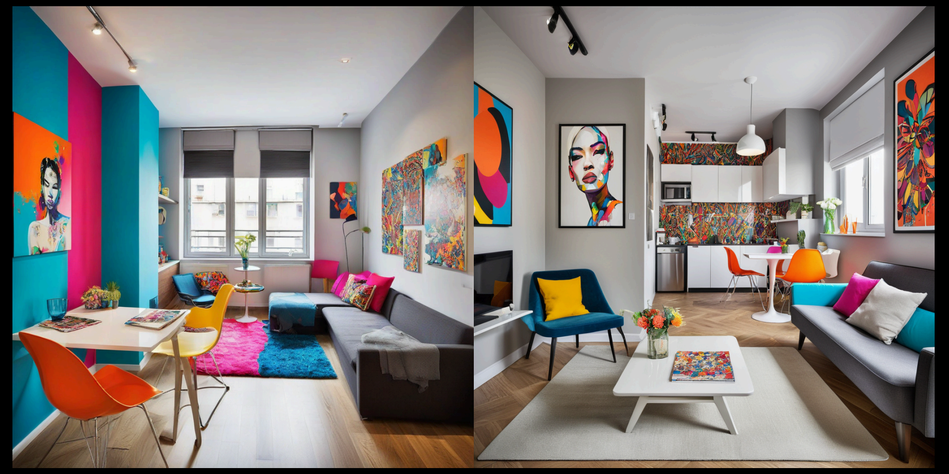
Personality Traits:

Creative and imaginative, Independent and self-reliant, Environmentally conscious, Socially active yet appreciates solitude, Enjoys the blend of tradition and modernity.

Future Aspirations:

Isla aspires to start her own design firm one day, focusing on eco-friendly and socially responsible businesses. She also dreams of publishing a book that combines her love for graphic design with her passion for environmental activism, hoping to inspire others to live more sustainably.

(AI Generated)



AI Generated

Prompt Used :

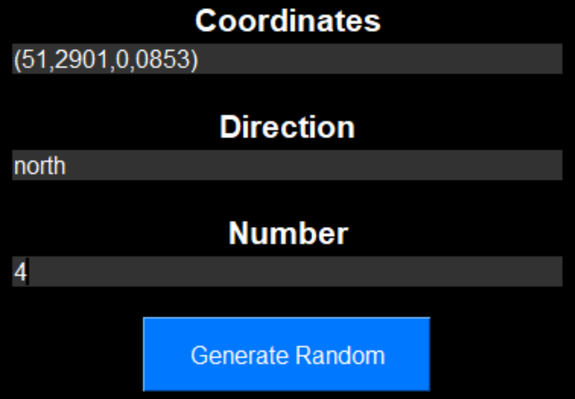
Visualize a compact studio apartment in a dynamic urban area, characterized by cultural diversity and contemporary city ambiance. The interior is furnished with sleek, modern pieces and is brightened with bursts of vivid colors. This lively atmosphere is further enhanced by original artwork that decorates the walls, each piece reflecting a unique and vibrant artistic style.

The text on the left is ChatGPT's interpretation of the restored figure, and the text above is the prompt used for visualizing the figure's living space.

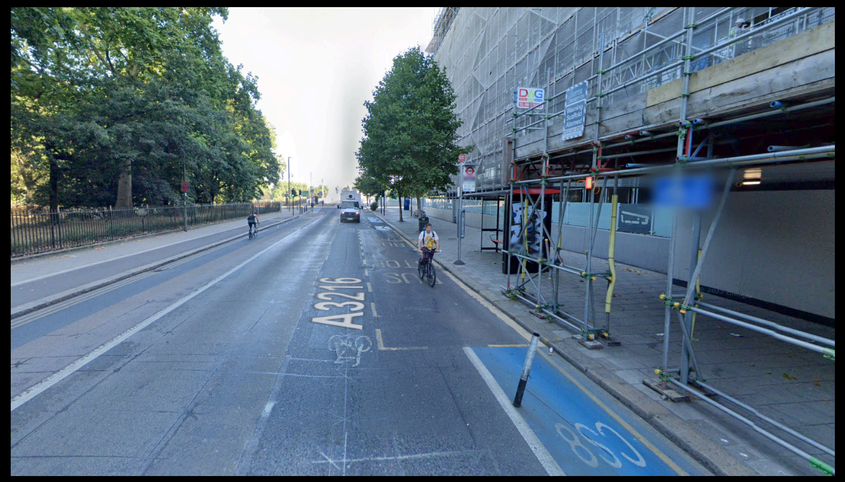
Basic Workflow of Finding Pedestrians and Restoring Face (#2):



















The workflow essentially inherits from the initial experiments [Basic Workflow of Finding Pedestrians and Restoring Face #1], and building upon this, I start testing Unreal Engine's MetaHuman to try to replicate the restored face of the chosen figure into a 3D character (depicted on the right side).

Basic Workflow of Finding Pedestrians and Restoring Face (#2):

Name: Theo Clarke.

Occupation: Mobile App Developer and Urban Tech Blogger.

Lifestyle and Background:

Theo Clarke is an innovative mobile app developer working for a forward-thinking tech company in the heart of London's tech city. His modern flat in Walworth is a hub of creativity, with multiple monitors lining his desk, a whiteboard filled with algorithms and project timelines, and a cozy reading nook where he indulges in the latest tech journals and sci-fi novels.

Theo's mornings are spent zipping through the underground, his Oyster card always topped up and ready. He uses his commute time to catch up on podcasts about technology and urban development or to draft posts for his blog, where he discusses the intersection of technology and city living.

After work, Theo often attends tech meetups, workshops, and talks to stay ahead of the curve in the fast-moving tech world. He's an active member of a co-working space where he collaborates with other tech enthusiasts on side projects aimed at improving urban life.

Personality Traits:

Curious and highly intelligent, with a knack for problem-solving, Enthusiastic about technology's role in improving the urban experience, Avid reader and lifelong learner, Engaged in the tech community and a proponent of sharing knowledge, Believes in technology as a force for good, driving sustainable and smart city initiatives.

Future Aspirations:

Theo has his sights set on developing an app that will help Londoners navigate the complexities of city life, incorporating real-time data to optimize daily commutes, public services, and environmental impact. His ultimate goal is to play a pivotal role in transforming London into a leading smart city of the future.

(AI Generated)



AI Generated

Prompt Used :

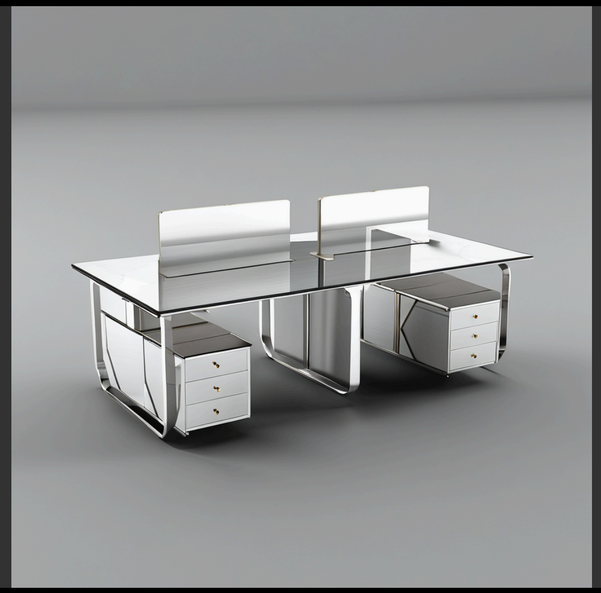
A modern flat in the heart of London's tech city, designed as a hub of creativity. The interior features a desk lined with multiple monitors, a whiteboard filled with algorithms and project timelines, and a comfortable reading nook for delving into tech journals and science fiction novels.

The text on the left is ChatGPT's interpretation of the restored figure, and the text above is the prompt used for visualizing the figure's living space.

3D Modeling Experoments: Use AI Image as Reference



3D Model



AI Generated



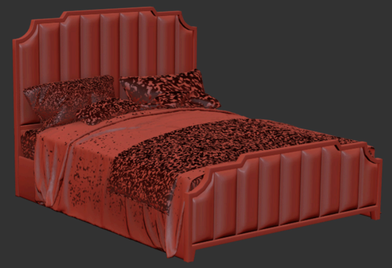
3D Model



AI Generated

The initial phase of my project serves as both a proving ground for my existing skills and a discovery zone for areas needing refinement. In preparation for bringing AI-generated images on the previous page to life within a VR environment, I began by using AI to produce a collection of furniture images. These served as the foundational blocks upon which I built, reconstructing each item within a modeling software environment. Much like assembling a puzzle, I pieced together these elements, one by one, to form a cohesive and immersive virtual space. This stage was instrumental in testing my proficiency and identifying the skill sets I need to develop further to achieve the seamless integration of AI creations into an interactive virtual realm.

















AI Generated

3D Model

AI Generated

3D Model



Stepping Stones:
Constructing My First VR Landscape

Statement:

In my initiation venture into the virtual reality, I embarked on a project that not only aligned seamlessly with the immersive capabilities of VR but also held a deeply personal resonance. 'Resurrecting Memories: A Digital Tribute to Grandparents' Homestead' is an artistic endeavor born out of the intent to encapsulate and preserve the essence of my grandparents' home—a narrative that mirrors the experiences of countless families across China as they navigate the tides of urbanization, development, and demolition.

This project is an homage to my grandparents' abode, a sanctuary they inhabited for over half a century, woven into the fabric of our family's history with threads of love and countless treasured moments. Alas, it fell victim to the inexorable march of urban development and the widespread demolition campaigns in China.

Yet, through this VR creation, I sought to transcend mere architectural resurrection. It is a testament to the enduring nature of memories, their ability to outlive the very bricks and mortar that once cradled them. This work is more than a wistful glance backward; it is an acknowledgment that heritage is not solely about the physical edifice but also about the values, tales, and shared experiences that have sculpted our family's saga.

Employing the transformative power of VR, 3D modeling, photogrammetry, and digital artistry, I've reconstructed each element of the house to act as conduits between bygone days and contemporary times, inviting the viewer on a poignant journey through the dimensions of remembrance and legacy. The recreated rooms resonate with the echoes of past laughter and stories, infusing the virtual space with the same spirit that once pervaded its physical counterpart.

As participants navigate this digital homage, they are immersed in a narrative that is at once personal and universal, compelling them to ponder the impermanence of our physical world against the indomitable strength of our memories. This project, at its core, is a confluence of past and present, an interactive exploration that not only reconstructs a cherished space but also prompts a dialogue about what we truly preserve when we hold on to the past.

Research & Process:

What happened?

Housing demolition and relocation VS. Forced evictions in China

In the context of urban development and transformation in China, there are two related but distinct phenomena that often occur: housing demolition and relocation, and forced evictions. While both involve changes in housing and living conditions, they differ in terms of their legality, impact on residents, and government policies. In summary, housing demolition and relocation are government-led initiatives aimed at urban development, while forced evictions involve illegal and often brutal removal of residents from their homes. Both have significant social and economic implications, but the key difference lies in their legality and the protection of residents' rights. In China's demolition process, the two approaches go hand in hand, and many times there is no way to clearly separate the two.



So in order to better understand my grandparents' memories of the house, I interviewed them after I had a preliminary understanding of the historical background, in which they answered questions about the history of the house, its appearance, and so on. In the interview, they answered questions about the history of the house, its appearance, and so on. From this, I learned that they were very lucky to have gotten relatively a good deal when the house been demolished.



To bring my grandparents' house to fruition, I embarked on a journey into the world of 3D technology, photogrammetry, and digital rendering.



Interview:

https://vimeo.com/872516071?share=copy (Vimeo)

https://drive.google.com/file/d/1LYF9rGGyByPGuRzCvWOhA1rHNr0YuXJa/view (Google Drive) Alternate Links



Rendering Video Tour:

https://vimeo.com/872591732?share=copy (Vimeo)

https://drive.google.com/file/d/1pSFycInYXbK91Eo59_EmjhAh1p2dUgy1/view?usp=sharing (Google Drive) Alternate Links

VR Footage:



https://vimeo.com/872662127?share=copy (Vimeo)

https://drive.google.com/file/d/1JI5obW5v8TzhjuOol9UXwsXw2kWI4CzS/view?usp=sharing
(Google Drive) Alternate Links

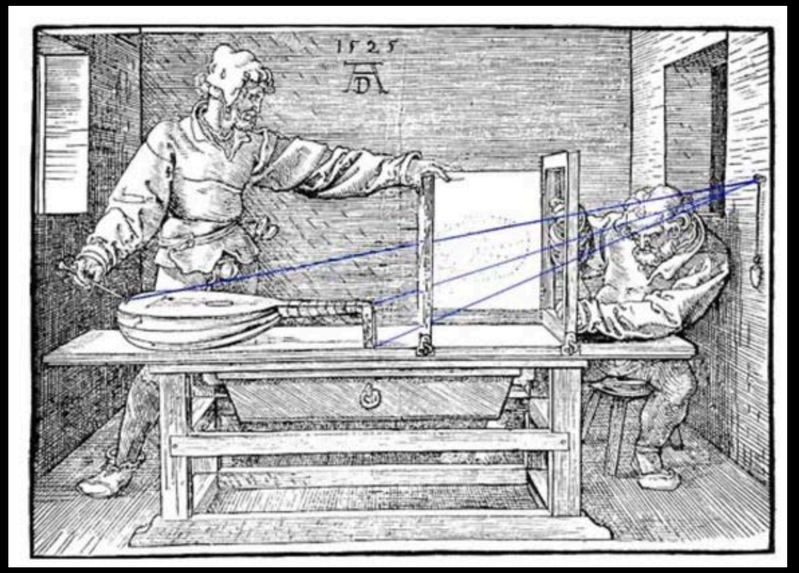
Photogrammetry

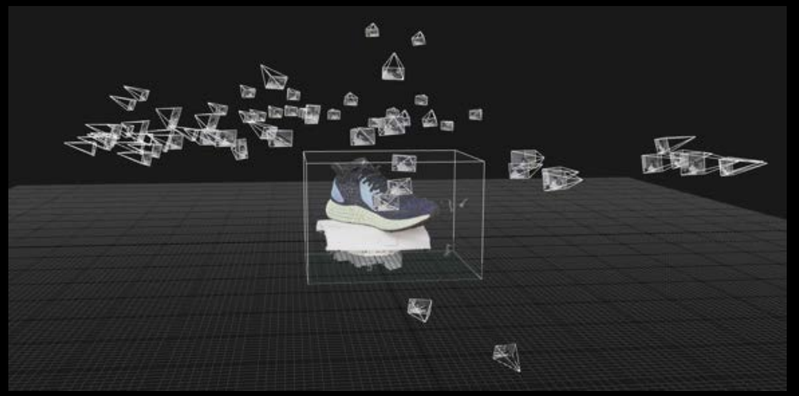
Photogrammetry is the science of making measurements from photographs. It is primarily used for surveying and mapping. The technique itself exists since the mid-19th century, was patented in 1893 and is about matching and measuring the same points from different 2D images to reconstruct them back in 3 dimensions.

Once I had conducted my research and established the project's overall aim, as well as identified the subject to focus on, I decided to use two different techniques to construct the old house. These included using photogrammetry to scan the items my grandparents brought out of the old house, as well as using 3D software to modeling other parts of the house.

To the right are my first tries at photogrammetry earlier, the paths taken and the results after scannings.

In this project, I used Agisoft, Reality Capture to construct the scanned footage and refined the model using 3Ds Max.







Notes and Scan Gear

To the right are some of my notes on queries and practice.

Although photogrammetry is quite a useful method to capture surface and it allows for the creation of highly detailed and accurate 3D models. It is also important to note that photogrammetry is not always a perfect or foolproof process, as factors such as lighting, reflection and movement can impact the quality of the resulting 3D model.

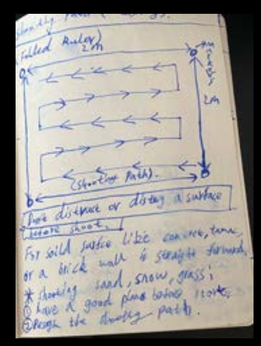
Of all the factors that can affect the quality of the final result, the lighting factor is particularly difficult to control. After some research, I decided to use the cross-polarized photogrammetry method to capture the needed surfaces. Since I did find a filter specifically made for my flash ring, I 3D printed a filter holder.

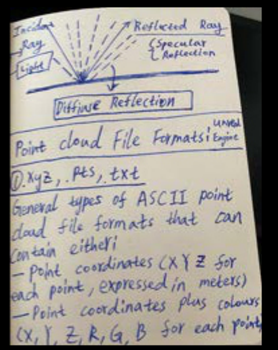
The Gear I used included:

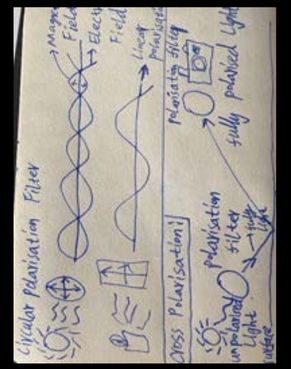
Nikon D810) with manual control is a neat choice I found for photogrammetry. With not a too-high resolution, it wouldn't become a handicap while it might take ages to process.

When I want to create a HDR Image, I would choose to use a 360-degree camera to capture data.

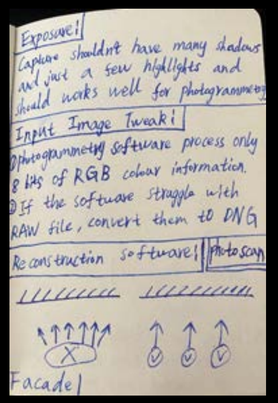


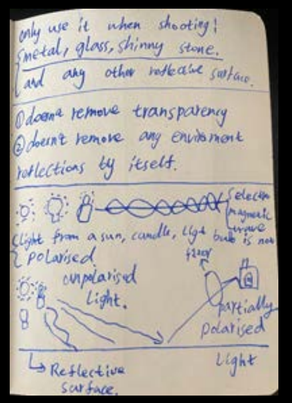


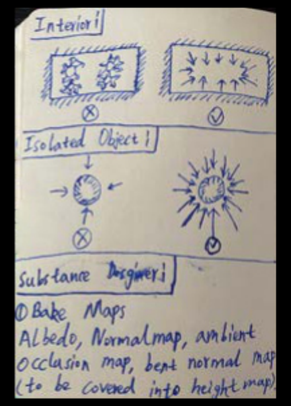




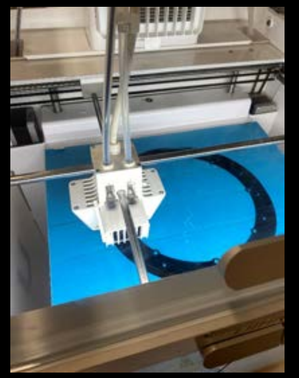
















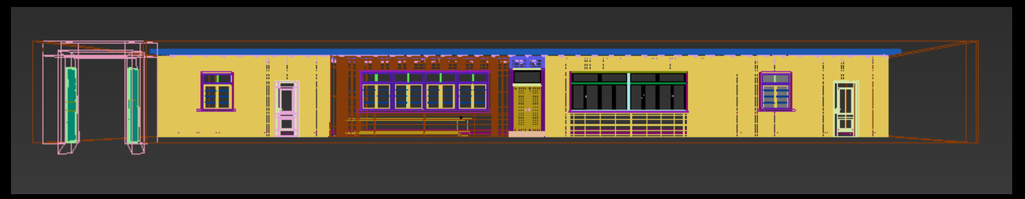
3D Reconstruction

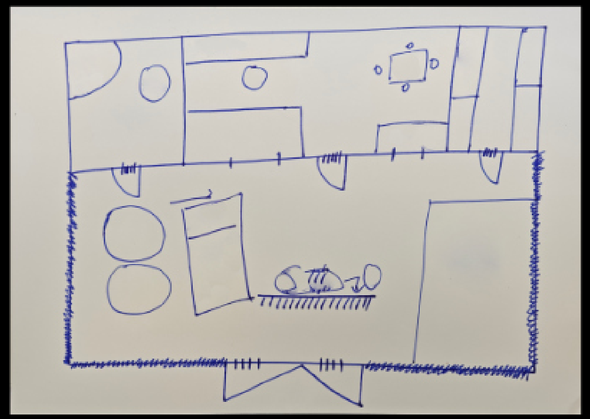
Here is the main structure of the house that I created in 3DS Max.

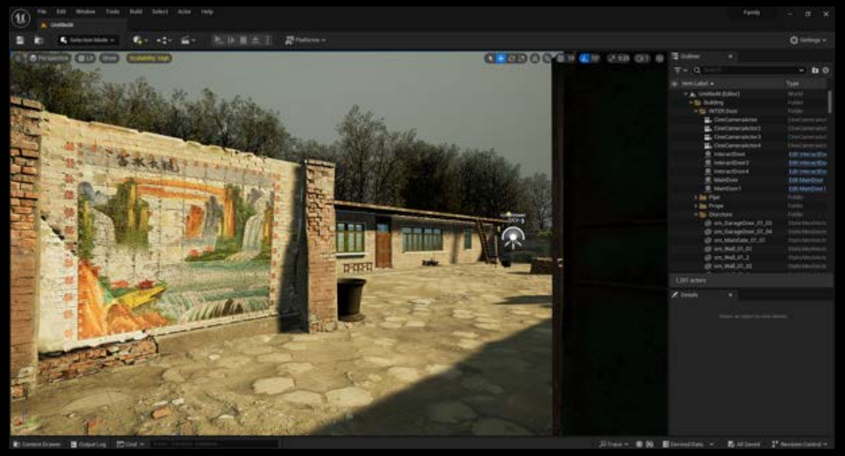
After finished modeling, I used Rizom UV to unwrap the model and textured them with Substance Painter.

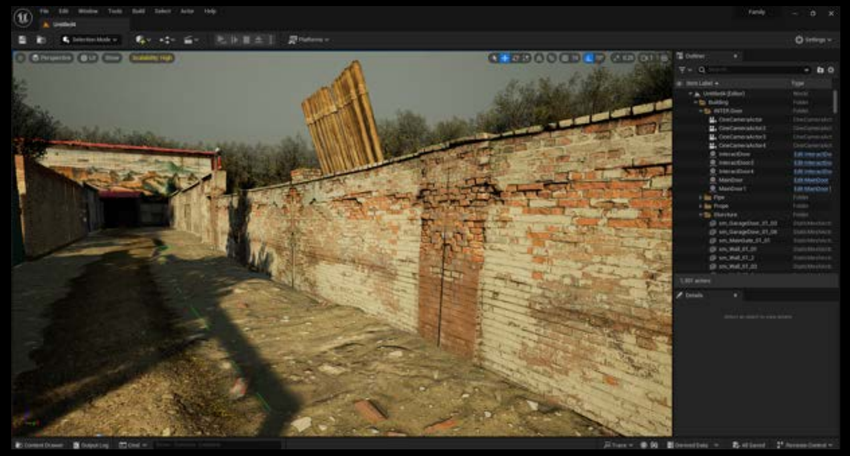
Finally, I used Unreal Engine to build the final scence and set the VR play ground.













Reflections on My First VR Project:

As I embarked on the journey of VR creation, my first attempt was both enlightening and challenging. It brought to light several key areas for development and improvements:

1. **Polygon Optimization:**

   I initially designed the VR environment with a high polygon count, which led to performance issues such as lag. Future projects will benefit from a more optimized use of polygons, employing strategies like reducing the poly count and utilizing baking techniques to preserve visual fidelity while ensuring smoother performance.

2. **Lighting Efficiency:**

   The use of real-time lumen lighting, although visually impressive, proved to be resource-intensive. Going forward, precomputed lighting with lightmap baking should be implemented to enhance the efficiency and performance of my VR experience.

3. **Enhanced Interactivity:**

   The initial use of basic interactive elements served as a functional starting point. However, to create a more immersive and engaging environment, the addition of sophisticated interactive features is necessary. This can include dynamic object manipulation to provide a richer user experience.

4. **Audio Ambiance:**

   The importance of audio was somewhat underestimated in this iteration. Incorporating spatial audio and ambient sounds will be essential to create a more authentic and enveloping environment in future projects.

5. **User Experience Tuning:**

   There is room for improvement in the intuitiveness of the navigation. To address this, I aim to integrate more explicit guidance systems, which will streamline the movement and interaction within the VR space, making the experience more user-friendly and natural.

6. **Use FBX instead of OBJ:**

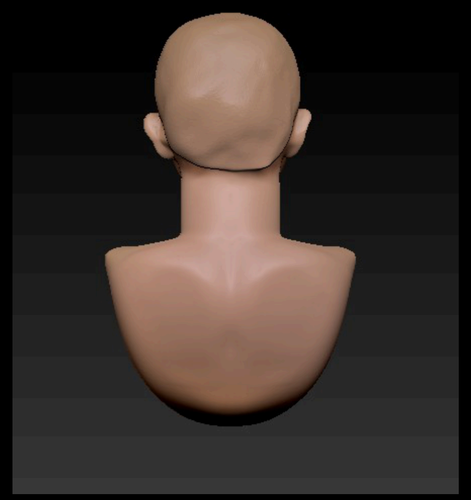
   Unreal Engine is highly supports FBX files for importing mesh/animation/material and so on.

3D Head Scan Result (Experiment):

Creating a 3D head scan involves several steps, from capturing the physical head using various scanning methods to processing and rendering the final 3D model. Here is a full process overview:

Before I start scanning, I have to ensure the subject's head is well-lit, and the environment lighting is stable. The scanning methods that I used is: photogrammetry. (Capture a series of high-resolution 2D images from various angles and use specialized software to reconstruct a 3D model.)

After I have captured the data, process it using photogrammetry software. Inside the software, I matched and aligned the images, create a dense point cloud, and generate a mesh.

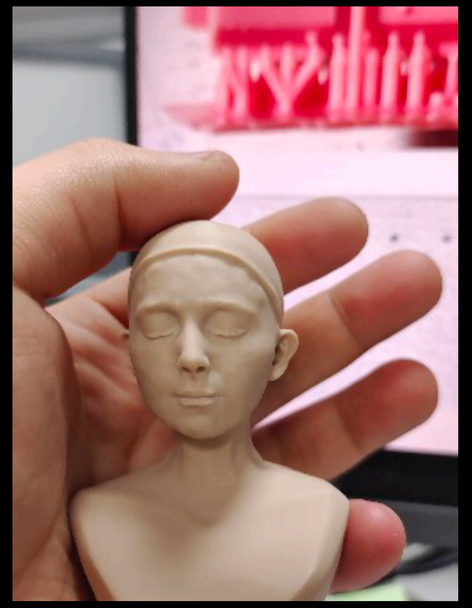




The raw 3D model had some imperfections, holes, or unwanted elements. After I generated 3D from photogrammetry software, I then move to 3D modeling software to clean up the scan. This includes, repair holes and irregularities, remove unwanted artifacts, and refine the details.

After I fixed the scanned model, I export the 3D head in a suitable file format (STL.) for 3D printing. To the right, you can see the printed 3D head model using a resin printer.









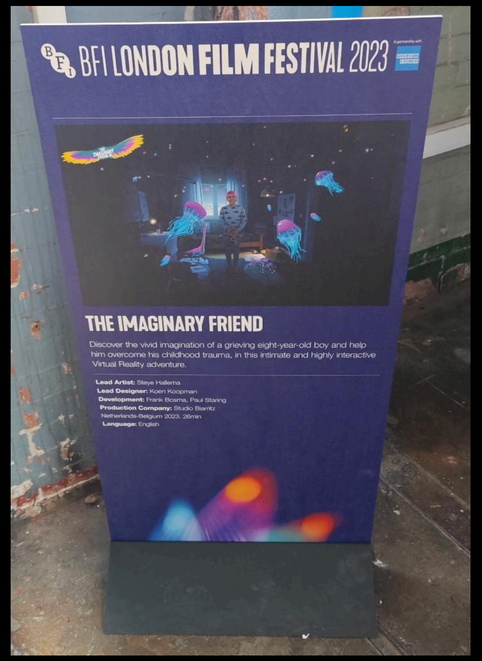
LFF Expanded Exhibition Inspirations:

The BFI London Film Festival's LFF Expanded exhibition at the Bargehouse (6-22, October, 2023) served as a fertile ground for creative inspiration.

The LFF Expanded exhibition is showcasing groundbreaking work by the world's leading mixed-reality artists. This year's edition featured nine distinct projects, each representing a unique narrative adventure:

1. **The Imaginary Friend:** A Virtual Reality journey crafted with avant-garde holographic filmmaking.
2. **Forager:** A multisensory VR documentary that delves into the fungal kingdom.
3. **Murals:** A poignant VR expedition through Banksy's murals amid the Ukrainian conflict.
4. **The Fury:** An intense VR experience reflecting the strife of a woman in political captivity in Iran.

The Imaginary Friend



This exhibition hosts six visitors in individual black fabric-covered cubes, each equipped with a rotating chair for easy perspective adjustment. It's an interactive virtual reality adventure where viewers embody a crow, a creature from an eight-year-old boy's imagination, aiding in his psychological healing. Using controllers, participants mimic flying motions to navigate the virtual world. As the creature, visitors join the boy, Daniel, in a fantasy realm to combat monsters, experience his classroom bullying, and witness his overcoming of trauma, leading to his happiness.



- Rotating chair: Practical and ingenious, allows seamless adjustment in virtual space and confines viewers to a specific location, useful in limited spaces.

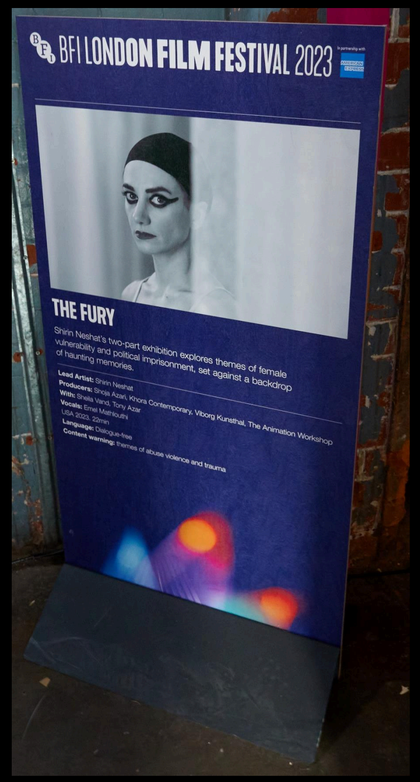
- Separate cubes with black fabric: Creates an intimate and exclusive ambiance, with dimmed lighting enhancing immersion and depth.

- Controller for flight simulation: Adds a new level of interactivity and dynamism, moving beyond traditional 360-degree videos.

The Fury









"The Fury," by Iranian filmmaker Shirin Neshat, is an exhibition with two segments divided by a black curtain: a VR video and a physical short film, exploring a female protagonist's trauma during political imprisonment.

1. VR Video: Viewers sit and watch a 360° video without needing controllers. It features a woman dancing in a warehouse, surrounded by male officers. The perspective shifts between being an observer among the officers and the dancer herself.

2. Physical Short Film: Viewers sit on benches and watch videos on screens on either side. These videos show the female dancer escaping the warehouse and her experiences on the streets.

Colored







[Colored | BFI London Film Festival 2023]

This exhibition, inspired by a biographical article by French writer Tania de Montaigne, uses holographic imagery and immersive sound to recreate pivotal moments of the Civil Rights Movement in the segregated American South.

It starts with the story of Colvin, a young Black girl, on March 2, 1955, who refused to give up her bus seat to a white passenger, an act later mirrored by Rosa Parks. These events sparked widespread protests and catalyzed the civil rights movement.

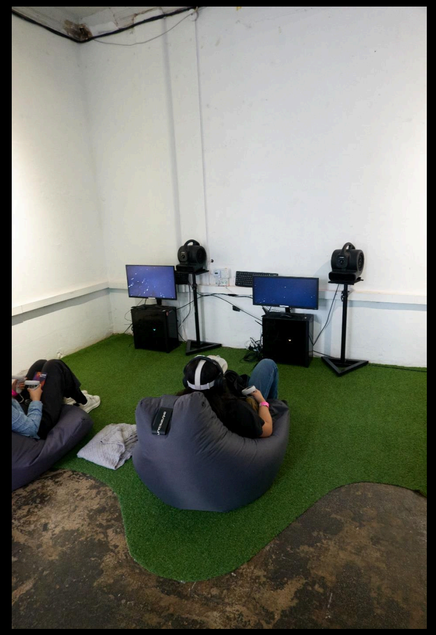
The interactive experience allows viewers to direct their focus across various scenes, including Colvin's act of defiance, her arrest, and trial. The exhibition accommodates 5-6 people at a time, offering a powerful examination of racism.

- Headset Used: Microsoft HoloLens 2.

- Overview: HoloLens 2 is an AR headset, blending digital content with the real world by overlaying holographic images onto physical surroundings, enabling interaction with both physical and digital worlds. In contrast, VR headsets create a fully immersive virtual environment, isolating users from their surroundings.

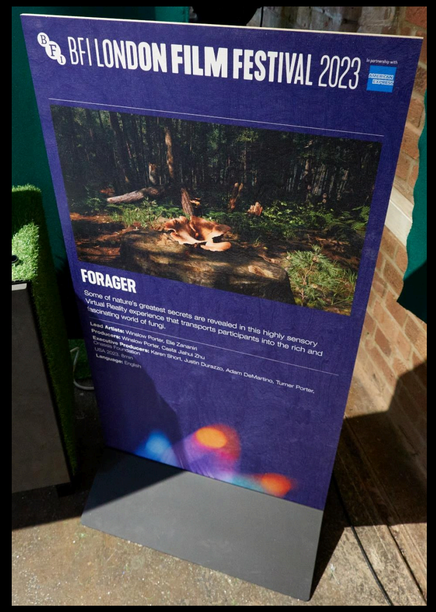
- Key Difference: Microsoft HoloLens 2 offers mixed reality experiences by overlaying digital content on the real world. VR headsets, on the other hand, create a completely immersive virtual environment. The choice between AR and VR headsets depends on the desired experience and specific use case.





Forager





This exhibition, accommodating up to four viewers, focuses on the world of fungi. It aims to educate about fungi importance and conservation, highlighting nine ancient woodlands in the UK for potential visits. The VR documentary guides viewers through a forest, detailing the fungi life cycle from spores to decay, with added immersion through sound and sensory elements. Additionally, a Stereoscopic Monitor displays a 3D model of fungi, adjusting its view based on the viewer's position for a 3D effect.

- Oculus headset used.

- Seating: Artist employs innovative, upward-facing bean bags for comfort. Lack of rotation focuses viewers on the intended perspective for a controlled experience.

- Sensory Integration: Addition of a fan and headphones creates a realistic sensory encounter, enhancing immersion in the forest environment. Wind sensation and sound deepen the connection to nature.

- Stereoscopic Monitor: Used in the second part for interactive learning. The display adjusts to the viewer's position, offering a 3D effect and personalized exploration of the fungi model. Alternative option: Looking Glass monitor.



Letters from Drancy

This VR documentary portrays Marion Deichmann's perilous escape from Nazi persecution during World War II. It traces her journey from Germany across northern Europe, highlighting her painful separation from her mother, assistance from the French resistance, and experiences during D-Day. Tragically, it also covers her mother's demise in a concentration camp.



- Headset: VIVE VR headset.

- Narrative: Combines live-action 360° video with 3D scenes for a compelling story bridging past and present.

- Technical Approach: Utilizes computers for processing VR 3D scenes, resulting in higher visual quality compared to works relying solely on VR headset processing.