Concordia University

JAMAIS VU:
Archiving Urban Soundscapes, the Recorded Ghosts of Our Present and a Potential Future

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CART 461 - TANGIBLE MEDIA STUDIO

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What is Jamais Vu?

Our project takes its name "*Jamais Vu*" from the phenomenon of experiencing unfamiliarity when encountering something that should be familiar. We aim to evoke this sensation by creating a (syn)aesthetic[1] installation featuring a soundscape composed of crowdsourced audio samples from across the city of Montreal. The project will involve two main components: 1) A database of sounds recorded by participants through the use of a web app or a physical device. 2) The presentation of a generative soundscape as an installation accompanied by visual projections and suspended fabric sheets.

To evoke the experience of jamais-vu, our project employs “defamiliarization”—a technique termed by Viktor Shklovsky—which disrupts habitual perception to prompt a new awareness of the familiar. In our increasingly digitized world, where more and more aspects of our lives are being tracked, measured, and converted into data—from online behaviors to biometric information—people are reduced from complex individuals into quantifiable units of information. This data feeds back into vast systems of information that determine how we are categorized, targeted, and ultimately understood, leading to a sense of resignation or powerlessness, a feeling that our lives are being determined by forces beyond our control. In this way, our experience of "reality" is always already a process of interacting with its traces, copies, and representations. *Jamais Vu* uses this condition—drawing from Baudrillard's ideas on simulations superseding the real—to create a hyperreal space for critical reflection and defamiliarizing our expectations of being obediently reinterpreted as data.

The sound database will be ongoingly active, allowing users to contribute in real time, potentially empowering participants by giving them agency in the data collection process, making it an autopoietic work reliant on external contributions. In this way, the project’s database serves as a digitized memory; like an aircraft's black box that records for future investigation, the database captures and stores the present soundscape, inviting users to envision potential futures in which they play an active role in shaping.

Taking inspiration from Mark Fisher’s writings on hauntology, and the style of hauntological music of artists like Burial, our soundscape aims to disrupt the familiarity rooted in initial encounters participants have with the everyday sounds of the city by sampling, processing, chopping, screwing, and distorting these recordings, reflecting Shklovsky's idea of "roughened form" where artistic techniques can make the familiar seem strange. The project uses technology not for efficiency, but to create a sensory experience for critical reflection, subverting the expected functionality of technology. The hauntological style of the soundscape will hopefully prompt the audience to defamiliarize themselves with the present in order to envision potential futures that transcend current expectations and fears. The project, through its installation and ongoing participatory database, becomes an autopoietic space where the past, present, and future co-exist.

[1] the production of a sensation in one part of the body resulting from a stimulus applied to, or perceived by, another part.

Introduction to Relevant Academic Research

Hauntology

In his book *Ghosts of My Life*, Mark Fisher explores hauntology, a concept he adapts from Jacques Derrida, to describe how contemporary culture is haunted by a sense of melancholia produced by unrealized potentials of the past—lost futures that were promised by postwar movements like modernism and rave culture, but never quite materialized. Instead of a bright future, Fisher argues that we live in a time dominated by capitalist realism, of which hauntology is a symptom. This ideology, coupled with rapid technological advancements, has led to a sense of stagnation and a fixation on the past.

Hauntology is not just a longing for the past but a mourning for unrealized potentials, the feeling that things could have been different, for the futures that could have been (Fisher, p. 15). Fisher sees this exemplified in the music of artists like Burial, whose work he describes in the chapter *London After the Rave* (p. 92-93)*:*

> "...[It] suggests a city haunted not only by the past but by lost futures. It seems to have less to do with a near future than with the tantalizing ache of a future just out of reach. Burial is haunted by what once was, what could have been, and – most keeningly – what could still happen.... [..] Audio hallucinations transform the city's rhythms into inorganic beings, more dejected than malign. You see faces in the clouds and hear voices in the crackle. What you momentarily thought was muffled bass turns out only to be the rumbling of tube trains."

Fisher argued that music, especially electronic music, has a unique ability to materialize memory and evoke feelings of time being out of joint (Fisher, p. 14, 26). This is particularly true of music that utilizes the sounds of older technologies, like vinyl crackle. These sounds, he believes, make us aware of the recording process and the passage of time, disrupting any sense of being fully present in the moment.

The act of recording and archiving sounds can be seen as a form of capturing these "ghosts," a digital memory or archiving that preserves present auditory experiences that might otherwise fade with time. Hauntology as a music genre often includes sampling of older sounds to evoke melancholy for lost futures or remind us of remnants of the past that are shaping the present. Our soundscape however takes a different approach. Rather than using old audio clips or instruments, our samples come from the present. The soundscape aims to disrupt our familiarity with the sounds of the present to prompt an understanding that we are always already haunting our potential futures—the present actively intrudes upon and disrupts our imagination of the future. The installation becomes a kind of "haunted" space, a simulated environment where the boundaries between real and unreal, past and present, are fluid. The soundscape functions like a black box for an imaginary future in investigation; a way to confront the ghosts of the present and imagine alternative future trajectories.

Hyperreality

Hyperreality, a concept developed by Jean Baudrillard, describes a state where the distinction between reality and the constructed world is disrupted. In *Simulacra and Simulations,* Baudrillard retells a story by Borges in which an emperor commissions a map so detailed and exact that it covers the entire territory of his empire. The map and the territory are identical, with the same topography, making them indistinguishable from each other. The map begins to distort the topography of the original territory, changing on its own accord, becoming more real than the actual territory it was designed to represent. This fable is an analogy for today's world in which Baudrillard argues that simulations (the map) supersede the actual thing they aim to represent (the territory) to the point where the real world disappears, leaving only simulation.

Baudrillard argues that we live in a hyperreal world. In a hyperreal state simulacra prevail—copies without an original, representations of something that no longer refer back to an original source but functions as reality itself. Baudrillard argues that our immersion in simulations and the rapid turnover of cultural images and information in the digital age contribute to a breakdown in linear temporality. These simulacra, detached from any original referent, create a sense of loss, a yearning for an authenticity that may have never existed.

Baudrillard's concept of hyperreality can be seen as a catalyst for hauntological experiences. As our world becomes increasingly saturated with simulations, we become more susceptible to the allure and unease of lost futures, to the sense that something is missing or out of place. This yearning for authenticity is similar to the yearning Fisher describes for unrealized potentials / melancholy of what could have been. Furthermore, the sense of temporal fragmentation aligns with the hauntological idea of how the past continues to intrude upon and disrupt the present. This resonates with Derrida's idea of "différance" as a temporal and spatial difference that disrupts linear time and questions the primacy of the present. Both concepts acknowledge a sense of distorted linear time in which the past intrudes upon the present, creating a sense of unease and displacement. Fisher writes that "...there's an increasing sense that culture has lost the ability to grasp and articulate the present. Or it could be that, in one very important sense, there is no present to grasp and articulate any more" (p. 94). Our project's database, while containing authentic sounds, becomes a sort of hyperreal representation of the city's soundscape through the process of digitally collecting and storing. By defamiliarizing the samples through audio processing techniques and distortion, listeners may regain an ability to grasp and articulate the present. In this way, the generative soundscape becomes more real than real—it is hyperreal, a replacement for the actual experience of listening to the city, a stand-in for reality itself. This may serve to highlight what is absent from our lived experience—the original, unmediated experience of the city. The installation serves as a strategy for grappling with our hyperreal state by disrupting our passive acceptance of simulations, and critically examining the constructed nature of our experiences.

How Culture Shapes What People Want From AI

The research from Stanford University, "How Culture Shapes What People Want From AI," offers a relevant theoretical framework for our project, *Jamais Vu*. First and foremost, the study emphasizes the importance of incorporating diverse cultural preferences, concerns, and creativity into AI development, which mirrors the core aim of our project: to engage a broad range of participants through culturally responsive and relevant interactions to accurately represent the Montreal demographic and the soundscapes that rise from it.

Just as the research suggests that different cultural models influence how people imagine ideal AI systems—whether prioritizing control, connection, or influence—our soundscape installation plays with these cultural perceptions. How people perceive themselves and their environments. Much like Jean Baudrillard's idea that hyperreal environments blur the distinction between the real and the simulated, our project, by transforming familiar urban sounds from Montreal in unexpected ways, aims to evoke a similar process of defamiliarization, where participants re-examine their relationship with both technology and their environment. Participants are hence invited to question the authenticity of their perceptions, reflecting how digital mediation can create new, layered realities.

Moreover, the research underlines the need for technology, like AI, to reflect and serve the diversity of global populations, inspiring us to think critically about how our project invites interaction. A culturally responsive AI design reflects on how the use of an app and physical recording devices would engage participants from various backgrounds who'd contribute to the digital representation of Montreal, imbuing the project with a pluralistic, participatory spirit. This paper directly inspires us to foster an inclusive dialogue within the greater demographic of a diverse metropolis that is Montreal.

This alignment between the Stanford study's conclusions and our artistic goals helps to deepen the conceptual foundation of our project. Both explore how technology—whether AI or digitized soundscapes—can be shaped to reflect the diverse ways people connect with their surroundings, ultimately serving as tools to explore not just technology but the cultural, emotional, and social nuances embedded within it. As the research suggests the future of AI lies in representing a broader range of human experience, *Jamais Vu* also aims to represent a more inclusive spectrum of how we understand, perceive, and interact with the world around us, while reminiscing on "ghosts" of the past and the potential futures.

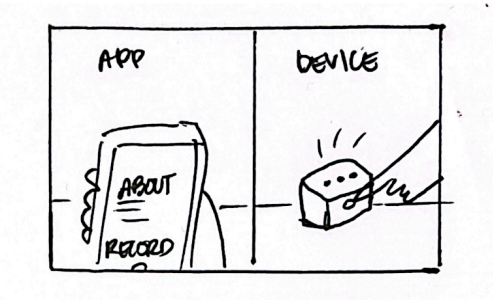
Interface and Interaction Design Strategies

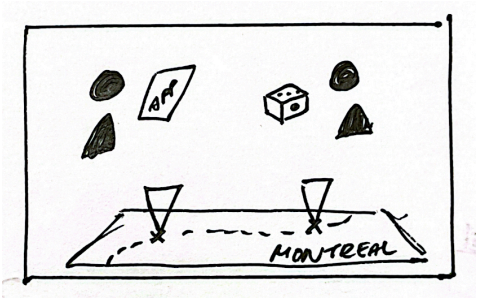
Our project aims to empower participants by giving them agency in the data collection process, contributing to an archive by recording and uploading their own sounds. The app will serve as the primary interface for data collection, designed to be simplistic and user-friendly, allowing users to easily record and upload sounds. The physical recording device provides a no-interface method for participation which facilitates the barrier to contribute, but also incentivizes such contribution by manifesting a physical format that is different than just a web-application. The details of the device's design are going to be explained in a later section.

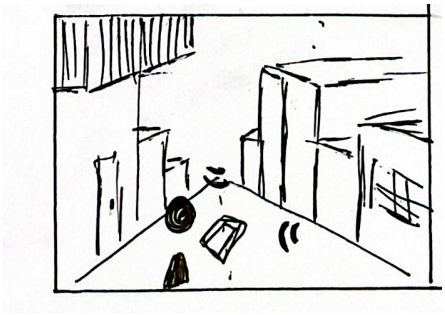
The installation, with its use of processed sounds, projections, and physical materials, is designed to create a multisensory experience that goes beyond simply representing the city as raw data. For example, platforms like Google Maps use data to visualize cities while prioritizing efficiency and ease of navigation, whereas our project is more interested in the sensory experience, challenge the purely functional method of data visualization, instead using sounds and visuals to evoke feelings of uneasy familiarity, pushing back against the deterministic tendencies of data-driven systems. This interplay of different mediums creates a space for interpretation and subjective sensory experience that resists being reduced to a singular, data-driven narrative. Instead, the outcome is generative, always changing and reacting to new data fed by participants, giving agency back to the audience.

Interaction Scenarios (Storyboard and Journey Maps/Sketches).

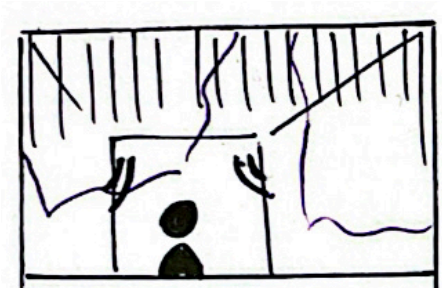
App / Recording Device (Data Collection)

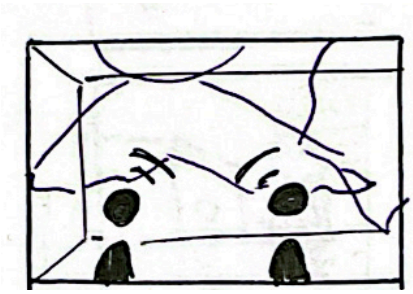
DISCOVERY / USER PREP 	Participants discover the project and decide to take part in the data collection process. They either use the app or receive a recording device from a team member

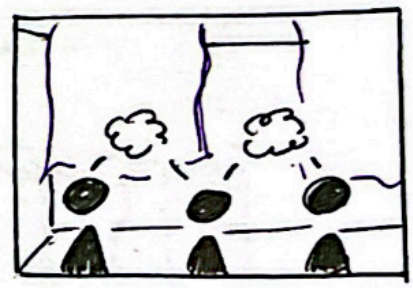
EXPLORATION 	Participants, feeling more engaged, are encouraged or prompted to explore various parts of the city to capture unique sounds they see as part of the urban soundscape

RECORDING / SUBMISSION 	Participants submit contributions to a collective sound database and may even spot their submission in the installation

Installation space / design

ENTRY / DISCOVERY 	First impressions Greeted by some ambient sound coming from the dark room with visuals are projecting onto fabric sheets Participants are curious and intrigued

ENGAGE / EXPLORE 	Interaction with the space They navigate and explore the space, engaging with the props and watching visuals respond dynamically to the sounds of the city Participants are captivated

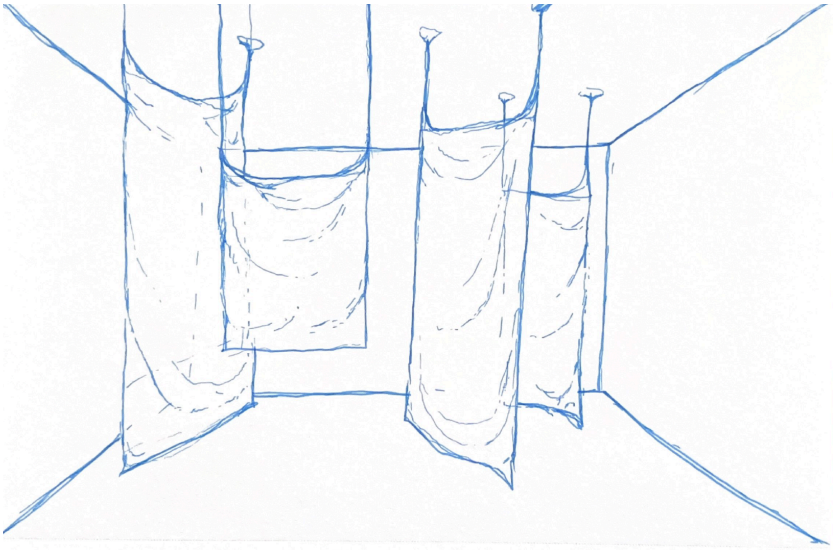
REFLECT 	Reflection zone They take a seat in the space to reflect and may also discuss with other participants their thoughts on the experience Participants are immersed, inspired and connected

Preliminary Site Exploration (It starts with the built environment).

We're currently considering closed and limited spaces for the final installation. The piece will need to be in such a space to be able to accurately play out the sounds with powerful enough speakers, and also contain the visual aspect that is to be a metaphorization of the city's archived "ghosts". Our prototype could be in a space such as Concordia University's HoloDeck as a proof of concept to be shown to multiple potential spaces that would host the project such as:

- mai/son
- Eisode
- Espace POP

Material Explorations (environment, built objects).



- Fabric Sheets: Experiment with different colors and transparency to have sheets that will be able to display the projection, while partly letting visuals go through.
- Strings: We need to find invisible strings to be able to suspend the sheets.
- 3D Printing Filaments: Experiment with different colors and textures to create enticing cases for our devices.

Documented Anticipated Technical Requirements.

Introduction

When thinking about technical requirements, we can divide the project in three different parts:

1. The data collection, which will be done in two ways:
    a. Via a web app.
    b. Via devices scattered around the city.
2. The processing of the data using Machine Learning and the production of new sounds via the Neural Network model generated.
3. The physical installation, which will be how viewers experience the sounds.

Web Application

For the data collection, we will need to have an interface to record sounds, a cloud platform to receive/send the data and a database to store the recordings.

1. Interfaces
    a. Web App
        i. Needs to be hosted on a cloud platform (Vercel, Netlify, etc).
        ii. The URL needs to be shared so that people can discover and access the website. A QR code will be printed on posters that will be installed around the city.
        iii. Allows the user to add tags to describe the sound they recorded.
    b. Custom Recording Devices
        i. Composed of a microcontroller able to connect to a WiFi 5Ghz network in order to access MTLWiFi (Photon 2) and a microphone to record the sounds. It will also include a button to start/stop a recording and LEDs to display the device's status. A Li-ion battery will provide power for the device, allowing it to be recharged.
        ii. A 3D printed case to protect the components.
2. Cloud Platform
    a. Hosting the web app.
    b. Hosting the webhook to receive the recording data and send it to our database.
3. Database
    a. We will be using MongoDB for our database.
    b. It will store the recorded sounds, along with user-provided tags to be able to classify them.

Device design and preliminary technical requirements

Why did we pick the Photon 2 microcontroller?

First off, the form factor! The Photon 2 is relatively small, which would allow us to create a small device that can be accessible to everyone. It can also operate on both 2.4ghz or 5ghz WIFI which would make it easy to connect to public WIFI.

Secondly, we plan to have the device in the public hands for long periods of time. The Photon 2 is designed for efficiency with multiple low power modes which would be great for running the device in remote locations.

We would also have access to the Particle Cloud, which would mean that we could manage the devices remotely, which would make maintenance easier.

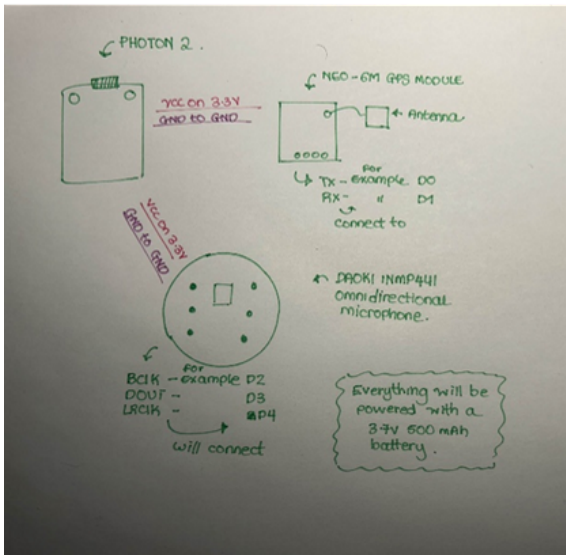
How will the data collection work?

As the device is meant to capture sound as well as gps location, we intend on using:

1. Robojax NEO-6M GPS Module with Antenna
    a. This will allow us to track the location of the device and send the location to then upload the data onto the database.

2. DAOKI INMP441 Omnidirectional Microphone Module
    a. This microphone would be a great alternative as it is an omnidirectional microphone which would allow us to capture sound from all directions. As we intend to collect sounds from different sources within Montreal, this will give us a clearer input.
    b. Also, it is small and lightweight, which would help in keeping the device small.
    c. It also has a built-in amplifier which can be useful for the areas that we intend to leave these devices at.

Essentially, the goal is to have a GPS module as well as a microphone hooked up to the Photon 2. When the device is connected to a public WIFI, it will automatically send both data to a mongo database. As of right now, we intend to use a Lithium-Ion Polymer Battery - 3.7v 500mAh but as the device progresses, we would like for it to be fully self-sustainable using solar technology.



Draft of how the circuit will look like:

Generative Sound and Machine Learning

The processing of the data and the sound generation will be done in Max MSP. We will be utilizing RAVE (Realtime Audio Variational autoEncoder) to train a neural network and use the generated model to transform the audio files stored in our database.

Visuals Supporting the Installation

For the installation, we were imagining a small room with large pieces of semi-transparent fabrics hanging out of the ceiling. Audio-reactive visuals made in TouchDesigner would be projected onto the suspended sheets and fans would blow air in various directions to add motion. The sounds would be played by multiple speakers spread around the room. If we have time, we would like to have motors attached at the end of the strings to be able to lower/raise the sheets.

To summarize, for the installation, we need at a minimum:

- Computers to run the Max MSP patch and the TouchDesigner patch.
- Speakers to play the sounds.
- Projectors for the audio-reactive visuals.
- Fabric sheets that will be used as projection surfaces.
- Strings to suspend the sheets.
- Fans to add motion to the sheets.

If we decide we want to be able to control the height of the sheets, we need:

- Spur gear motors to rewind the strings.
- Microcontrollers to be able to control them.

Gesamtkunstwerk

The raw data that is submitted to the database (via our contributors and participants) can be used by other projects, if deemed appropriate as raw sound data, geolocation data, etc. This could impact a greater width of projects by accessing our APIs, and aids them in audio-based data visualization.

The raw data could initially include:

- Raw audio
- Geolocation
- Contributor's details[2] such as:
    - Age, sex, background, etc.

[2] Optional data that'd be voluntarily submitted. The effect on this project would be minimal.

Team Members and Associated Responsibilities, Tasks and Inter-Team Division of Labour.

	LYDIA	AZHAR	LOUIS	NOAH	KAMYAR	REBECCA
INSTALLATION DESIGN	x	x	x	x	x	x
- This task includes the physical design of the space itself, material exploration, and also how the audience is guided through the experience.						
DEVICE DESIGN/DEVELOPMENT		x				x
- The physical device will be used to be given to citizens around the city to utilize as a recording device, which will then be used to upload to the online database.						
APP DESIGN/DEVELOPMENT		x	x		x	x
- The app is the main online checkpoint where the participants can submit their recordings to the online database. This task included the design of the web checkpoint, development of the backend server and the database alike.						
MACHINE LEARNING in MAX/MSP			x		x	
- RAVE will be used as the neural network system (and fine-tuned) to defamiliarize the recordings and collections. This task includes fine-tuning the model and developing the algorithms for the installation.						
VISUALS for INSTALLATION				x		
- The visuals present at the installation will be mainly done by TouchDesigner. The projections will be mapped on sheet fabrics to create the illusion of physical structures, i.e a tree. This task includes the initial development, as well as mapping to the installation space.						
SOUND DESIGN/COMPOSITION	x					
- Supporting sound will be developed to be played and accompany the installation to hold the general aesthetic together and guide the sonic experience, without interfering with the generative part.						

Concrete Production Calendar

A tentative schedule, as follows, has been planned out to distribute the labor required to realize the project. We're mindful of the important deadlines and aim to utilize each member's best abilities to contribute to the project. That said, we expect mingling between the tasks and inter-collaborations to ensure the project's smooth development and realization. All of the tasks are assigned according to the previous declaration of each member's skills.

WEEK 5 (1st October) - PROPOSAL/PLANNING:

- Project Proposal Finished (EVERYONE)
    - Site Exploration
    - Material Exploration
    - Interaction Scenarios (Storyboard and Journey Maps)
- Apply for FASA grant

WEEK 6 (8th October):

- Init App (KAM/LOUIS)
- Visuals layout (NOAH)
- Device Research (REBECCA/AZHAR)
- Initial installation sketches/design (LYDIA/REBECCA/NOAH)
- Apply for FASA grant

WEEK 7 (15th October):

- App (server/database) (KAM/LOUIS)
- Kinect Visuals (NOAH)
- Prototype of Device (REBECCA/AZHAR)
- Material shopping/experiments (LYDIA/LOUIS/REBECCA)

WEEK 8 (22th October):

- RAVE (IRCAM) setup (KAM/LOUIS)
- Sound init (LYDIA)
- Materials and Visual testing (REBECCA/NOAH/LYDIA)
- Device recording test (AZHAR/KAM/LOUIS)
- App test (AZHAR/KAM/LOUIS)

WEEK 9 (29th October) - PROTOTYPE:

- Recordings (EVERYONE).
- Installation/Pipeline Test.
    - Interaction

    - Server
    - Sound (LYDIA)
    - Sound (RAVE)
    - Visuals x Materials
    - Fans positioning / Speakers positioning.

WEEK 10 (5th November):

- More Testing
- Tweaking
- If time permits, adding optional layers

WEEK 11 (12th November)

- FINAL TESTING-TWEAKING

WEEK 12 (19th November)

- All needs to be done
- Debugging

WEEK 13 (26h November) - EXPERIENCE:

- Final Presentation

Reference Projects

1. https://blog.iaac.net/interactive-liminalities/

Interactive Liminalities reimagines transitional spaces like hallways, staircases, and elevators—areas people typically pass through without much thought. By using ultrasonic sensors and motion detectors, the project responds to human presence, activating LED lights and fan motors to create dynamic sensory experiences. This interaction aims to disrupt the typical disconnection felt in these utilitarian spaces, encouraging users to engage more deeply with their surroundings.

Rooted in the concept of "liminal spaces"—thresholds or passageways that exist between destinations—*Interactive Liminalities* transforms these often overlooked areas into engaging environments. The project turns mundane transit into a heightened sensory experience, using technology to challenge the functional emptiness of these spaces and promote a new sense of connection.

This reimagining of familiar spaces through digital intervention connects with the goals of *Jamais Vu*, which similarly employs technology to alter perceptions of the everyday environment. Both projects use sensory

manipulation and data-driven tools to present reality in a way that prompts reflection, evoking a sense of unfamiliarity with what we think we already know.

2. https://www.philipbeesleystudioinc.com/sculpture/poietic-veil-tilburg-is-it-alive/

Poietic Veil Tilburg is an interactive installation that merges sculpture, fashion, and projection technology to create a dynamic interplay of light, shadow, and movement. The installation features a suspended, lace-like veil with responsive elements, paired with Iris van Herpen's dress *Lucid*, and a novel projection system called *Living Shadows*. This system animates the physical structure by projecting digital creatures that interact with and enhance the shadows of the veil, giving life and autonomy to the seemingly static environment. The creatures and shifting projections foster a sense of organic fluidity and encourage visitors to perceive the installation as a living entity.

This emphasis on transforming static spaces into animated, responsive environments through digital augmentation parallels *Jamais Vu's* objective of re-contextualizing familiar spaces. Both projects explore the concept of de-familiarity, where familiar elements—whether shadows, structures, or urban soundscapes—are altered through digital means, creating new sensory experiences that challenge the audience's perception of reality.

3. http://www.andrewkreps.com/artists/the-work-of-hito-steyerl

"This is the Future" by Hito Steyerl, combines video, sculpture, and spatial design to explore the interplay of digital technology, global capitalism, and AI. The exhibit is an imagined garden brought to life, reflecting on society's obsession with predicting the future. Steyerl's unique narrative style blends elements of documentary, speculative fiction, and dark humor, presenting AI as both a tool of control and a potential source of healing.

The centerpiece is a short film about Heja, an incarcerated woman who cultivates a hidden garden in her cell using AI to safeguard its future. Her plants, evolved through neural network predictions, become symbols of resistance against the challenges of modern life, such as social media addiction and overwork culture. A neural network voice narrates humanity's constant pursuit of control over the future, ultimately reminding viewers of the inevitability of mortality.

Accompanying this film are the "Power Plants" video sculptures, created through AI's interpretation of thousands of plant images. These digital plants flourish on LED screens mounted on steel structures, each paired with descriptions of their speculative healing properties. The vibrant visuals contrast with the bleak, rocky environment, symbolizing resilience in the face of a climate crisis.

Her project resonates with *Jamais Vu* in its emphasis on revealing the invisible layers of digital manipulation and emphasizing de-familiarity, where the viewer encounters a sense of the familiar, yet is unsettled by its

transformed and alien nature ." Steyerl's use of digital tools to reconstruct familiar narratives into disorienting and speculative realities reflects a broader critique of how technology reshapes memory and place—making her exploration of future imaginaries deeply aligned with *Jamais Vu's* focus on urban soundscapes and the digitization of lived experiences.

Differences between "Jamais Vu" and the reference projects

While both *"Jamais Vu"* and the referenced projects explore the concept of defamiliarization and the transformation of everyday environments through digital means, our project takes a distinct approach, particularly in its focus on urban soundscapes and the emotional connection to memory and cultural context.

In contrast to these projects, *Jamais Vu* creates a unique auditory experience that relies on the emotional and cultural resonance of sound. By collecting and distorting the sounds of Montreal, the project offers a time capsule of sorts, confronting participants with their own memories and collective memories, and challenging their connection to the city through the lens of hyperreality and hauntology. This emphasis on *sound*, *memory*, and the *digitization of urban environments* distinguishes *Jamais Vu* from the more visually-oriented projects, making it not only a sensory experience but also a deep reflection on how technology alters our relationship with history, space, and identity. How we move forward, and how the ongoing integration of machine learning algorithms in the arts and culture shapes the future of our daily lives as raw data.

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