

OPEN SHOW

DIGITAL FUTURES - 2017





Cover Image: Pigeon Trajectory 3 (details), digital print, Judith Doyle, 2017.

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OPEN SHOW MISSION STATEMENT

Digital Futures Open Show is where we show our best and most interesting work that's happening RIGHT NOW. The collection of work presented is intended to represent a survey of current ideas, concepts, themes, theories, tools, techniques, and trends being explored by the Digital Futures community.

The OPEN comes from the fact that this call is open to our whole community. The show includes works from current Digital Futures undergraduate students, graduate students, and faculty. For anyone who has asked the question "What IS Digital Futures anyway?" - we're hoping this exhibition will start to provide some answers.



DR. MARTHA LADLY

Graduate Program Director, Digital Futures

Since their inception, the Digital Futures graduate and undergraduate programs at OCAD University have contemplated a vital, collaborative and generous conversation, taking place between all members of our learning, teaching, and research communities, about what our digital futures might become. Each year our students have created distinguished thesis work and participated in joint exhibitions, but never before have members of our faculty, undergraduate and graduate students had the opportunity to show their work in conversation together. From new Transmedia forms to interactive installations and art works, user experience design, physical computing, games, wearables, and augmented and virtual reality experiences, converging the analogue with the digital, we strive to understand where our digital future has come from, as well as where we may be going. We try to bring criticality and reflexivity to these questions, and to consider larger societal implications. In this exhibition, we invite you to critique our work -- and consider it's potential.

So, Welcome!

For your consideration, our many potential digital futures are Open!



NICK PUCKETT

Undergraduate Chair, Digital Futures

As the Digital Futures program continues to grow, more faculty, students, and alumni are looking to define what it means. While I'm convinced that this will be an ongoing process and that no one will ever have the job title of Digital Future-er, the program's namesake does offer a key insight into how we learn, teach, and practice within it. It all comes down to a single letter: 's'. Though we are all working within a singular program, the Future is plural, and this interdisciplinary environment of multiple ideas, approaches, and media is at the core of what we do. As we move forward, the technologies will change and the approaches will expand, but the key for all of us involved is to consider how the work we make today can bring about multiple futures. The first Open Show highlights how this diversity of approach can also create new connections. The show highlights how we explore similar ideas through different media or use the same tools and technologies to create very different outcomes. Open Show provides the opportunity for the Digital Futures community to discover and discuss these connections to foster new potential collaborations.



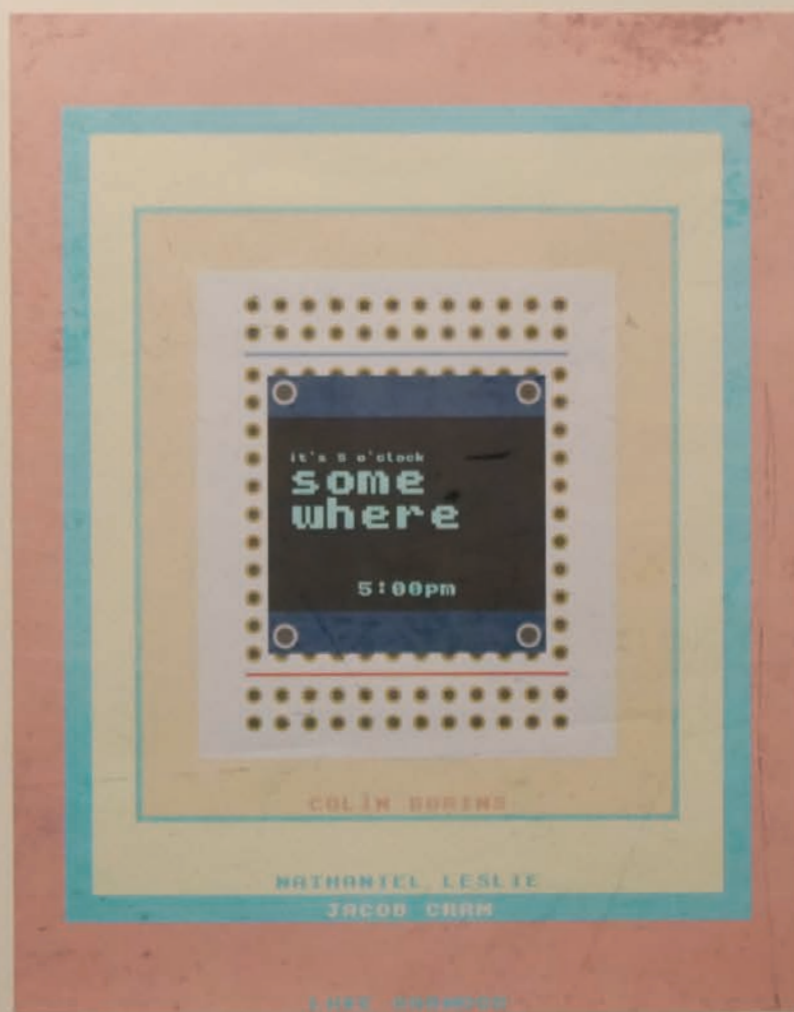
DR. ROBERT LUKE

Vice President, Research and Innovation

Research and teaching are integral to the university, and the interplay between these are evident in the Open Show exhibits. Research informs teaching, and the sharing of ideas that are featured in the show illustrate how our faculty are creating new knowledge and new ways of learning and interacting with the world. The artefacts in the show demonstrate the many ways of rendering the digital tangible; this is itself a tangible representation and mirror of the process of discovery inherent in research. Teaching renders this new and tacit knowledge explicit, forming an ongoing uroboric process that demonstrates the importance of research and discovery to the Digital Futures program, and the University itself. The interfaces between the digital futures imagined and made manifest in Open Show afford a multisensory experience that provokes a conversation on what is being mediated, and how. The students and faculty presenting their work enable participants to experience the many ways in which the digital worlds we inhabit can be imagined and brought to life. What we experience, see, hear and feel is a result of the many hours of research that underpins the work of Digital Futures.

PROJECTS

U UNDERGRADUATE
G GRADUATE
F FACULTY



5 O'CLOCK SOMEWHERE

PHYSICAL COMPUTING, DIGITAL FABRICATION

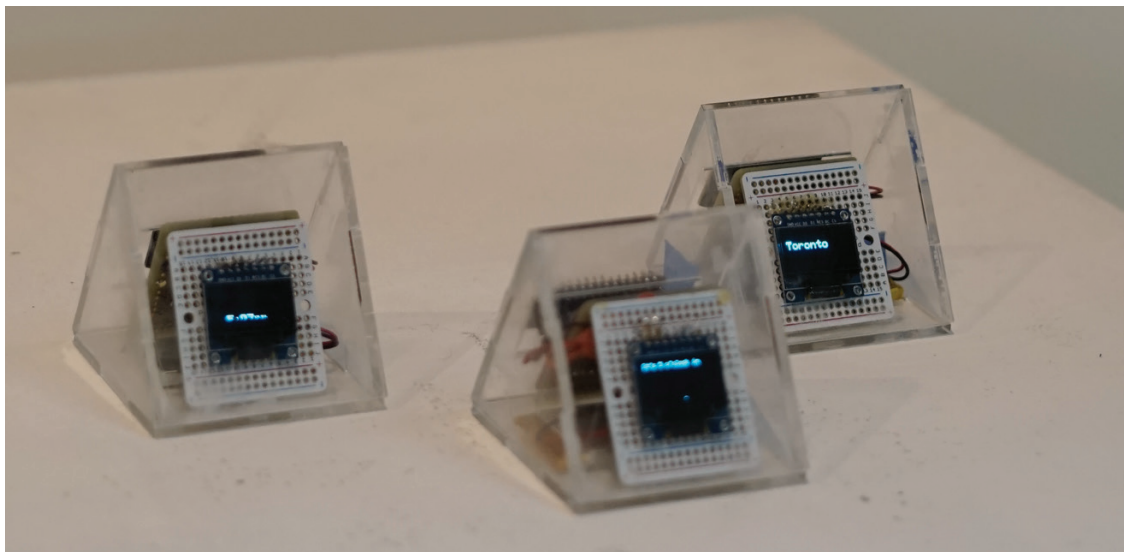


Jacob Cram, Luke Garwood, Nate Leslie, Colin Borins

5 O'Clock Somewhere is a portable clock, connected to your local wifi, or paired with your phone, to show you the current time and where in the world it's 5 o'clock. A tongue in cheek take on the expression "it's 5 o'clock somewhere", which alludes to the time in which the end of the work day has arrived, and happy hour has begun. Our device is a constant reminder that somewhere, someone is enjoying the end of their day.

This device displays the name of a city in which it is currently 5 pm, along with the current time in your timezone. The electronics are visible through a pyramid shaped case, made from laser cut acrylic. This makes for a great portable desktop show piece.

This project makes use of the Particle Photon to connect to WIFI and determine the user's location. The Photon is programmed to capture the user's time and location, and then determine other timezones accordingly. The time and city then gets displayed on a 0.96" OLED screen.





CBC NEWSWORLD HOLODECK

VIDEO INSTALLATION, DATA VISUALISATION

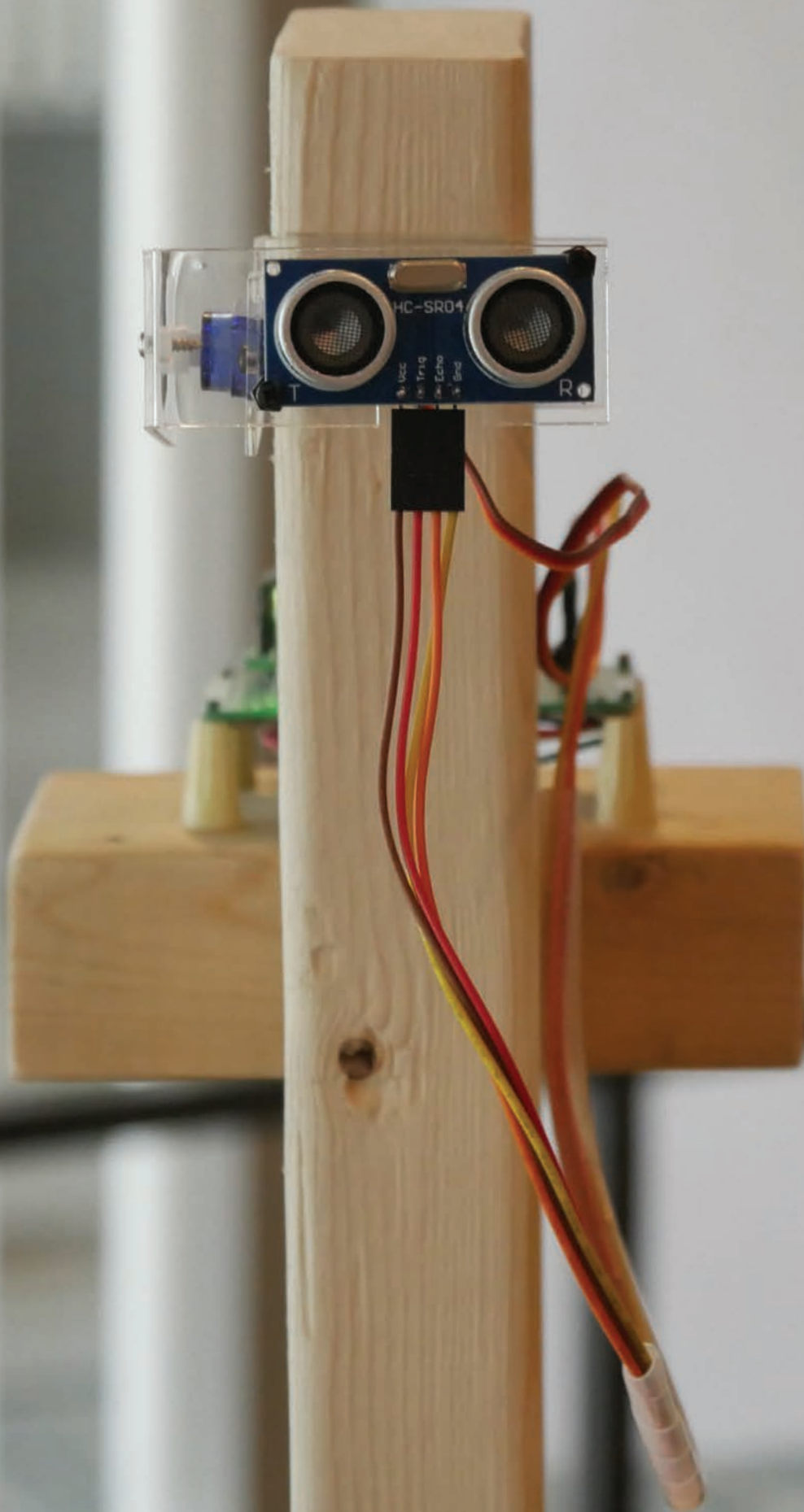


Martha Ladly, Gerald Penn

The *CBC Newsworld Holodeck* presents an immersive, user-driven “on this day” experience, allowing viewers to interact with segments of national and international news, human interest stories, politics, arts and culture, sports, weather, and advertising. The project utilizes visualization and sonification of portions of the enormous CBC Newsworld historical video data corpus, spanning a 28-year period from 1989-2017, to enable viewers to browse the digitized collection of 24-hour news videos. Sonic and visual data is accessed through a gesture-driven interface which enables keyword and keyphrase browsing through multiple video outputs and screens.

A system of video browsing has been developed with research partner Dr. Gerald Penn which allows search through keywords retrieved from the video transcripts via natural language processing. Browsing and search modalities include informational, temporal, entity-related, geographical, and sentimental queries. Keywords and keyphrases allow the viewer to jump to the selected segment of the video, an innovation that has the potential to lead to breakthroughs in video content search and display capabilities.

In 2016-17 the team have been working on editing, selecting stories and keywords, implementing and testing a further full 24 hours of news video data into the database and 24 screen interactive display, and conceptualising geographical interfaces and browser modalities. The *CBC Newsworld Holodeck* installation has been shown in Toronto at Nuit Blanche and OCE Discovery, and in Dubai and Vancouver at the International Symposia of Electronic Arts.



CREATION BY ERROR

PHYSICAL COMPUTING, 3D ANIMATION



Jordan Shaw

Creation By Error challenges and forces us to question our assumptions about the precision and accuracy of digital devices and how they are used to interpret and understand the physical environment. With a custom fabricated robot that emits an aura of “aliveness” and a bespoke networked system, the project captures, compares and materializes the discrepancies between our interpretation of the physical world and that of the robotic system. We are forced to contemplate the level of trust we hold in the data that’s being created by many digital systems.

The *Creation By Error* robot is set placed facing a blank wall that is to be scanned. The space is for participants to wander around the installation to be observed, analyzed and indefinitely archived. The archived data is used is visualized and projected in real-time next to the robot. A static hanging mobile is hung near by. It displays the mean error of the measurements that were collected over an hour. The IRL distance measurements from the robot to the wall were calculated and then differenced with the 100,000+ data points that were collected. It’s these differenced measurements that form the shape of the mobile. The contrast between the real-time data projection and mobile created through error opens discussion around the level of accuracy and truthiness that this data may have especially when these digital systems start to uniquely interpret their surroundings just like humans. The understanding of the physical world by digital systems may not be as mechanical and resistant to interpretation as once thought.



EMILIA

PHYSICAL COMPUTING, DIGITAL FABRICATION



Marcelo Luft

Emilia investigates solutions to mitigate loneliness by supporting elders to connect with their families and friends through more intimate and tangible interactions. Loneliness is caused by one's desire of being closer and connected to someone when in reality they are isolated and away from their loved ones. This project studies solutions to support elders to experience this feeling of closeness and connectedness when they are remote and away from someone they care and love.

As part of this thesis, a prototype called Happy Box was designed. Inspired by the subtleness and expressiveness of intimate acts the Happy Box consist of a pair of internet-connected boxes that work as an intimate and exclusive connection between elders and their families. They offer a simple and ambiguous interface where the content exchanged has less relevance than the act of being in touch. With the help of wooden tokens, light patterns can be sent between the two boxes, these patterns have no pre- determined meaning as to encourage elders and their families to interpret them utilizing context and the intimate knowledge that they have of each other. These simple bits of light patterns have the capability of supporting the sense of remote awareness and connectedness mitigating the feeling of loneliness.





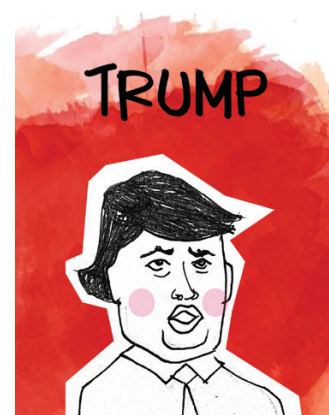
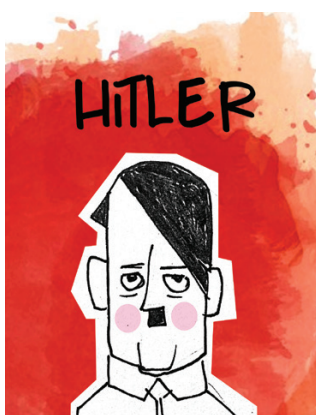
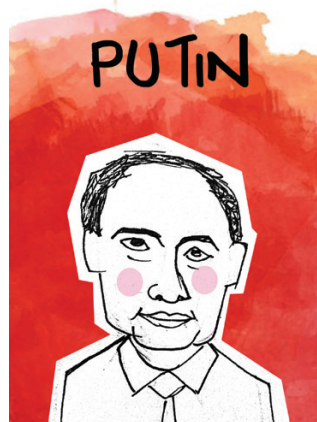
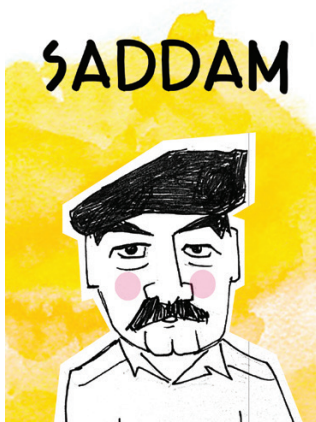
FASCIST FALLDOWN

PHYSICAL COMPUTING, GAMES



Mudit Ganguly, Nadine Lessio

Fascist Falldown is a physical bowling game that is a cross between a carnival game, and beer pong. It consists of upwards of 20 mobile devices which act as pins. Players load a website in their smart phone browsers and then are randomly assigned a dictator. They then place their phone on cardboard stands inside a game area reminiscent of the eye of the Illuminati, and players take turns bowling the dictators down using a ball (The Ball of Democracy). The game area itself is generally created with materials that can be found on-site. The intent of *Fascist Falldown* is to frame a serious political concern within a playful context, while shifting how people relate to their mobile devices.





FLOTOGARDEN

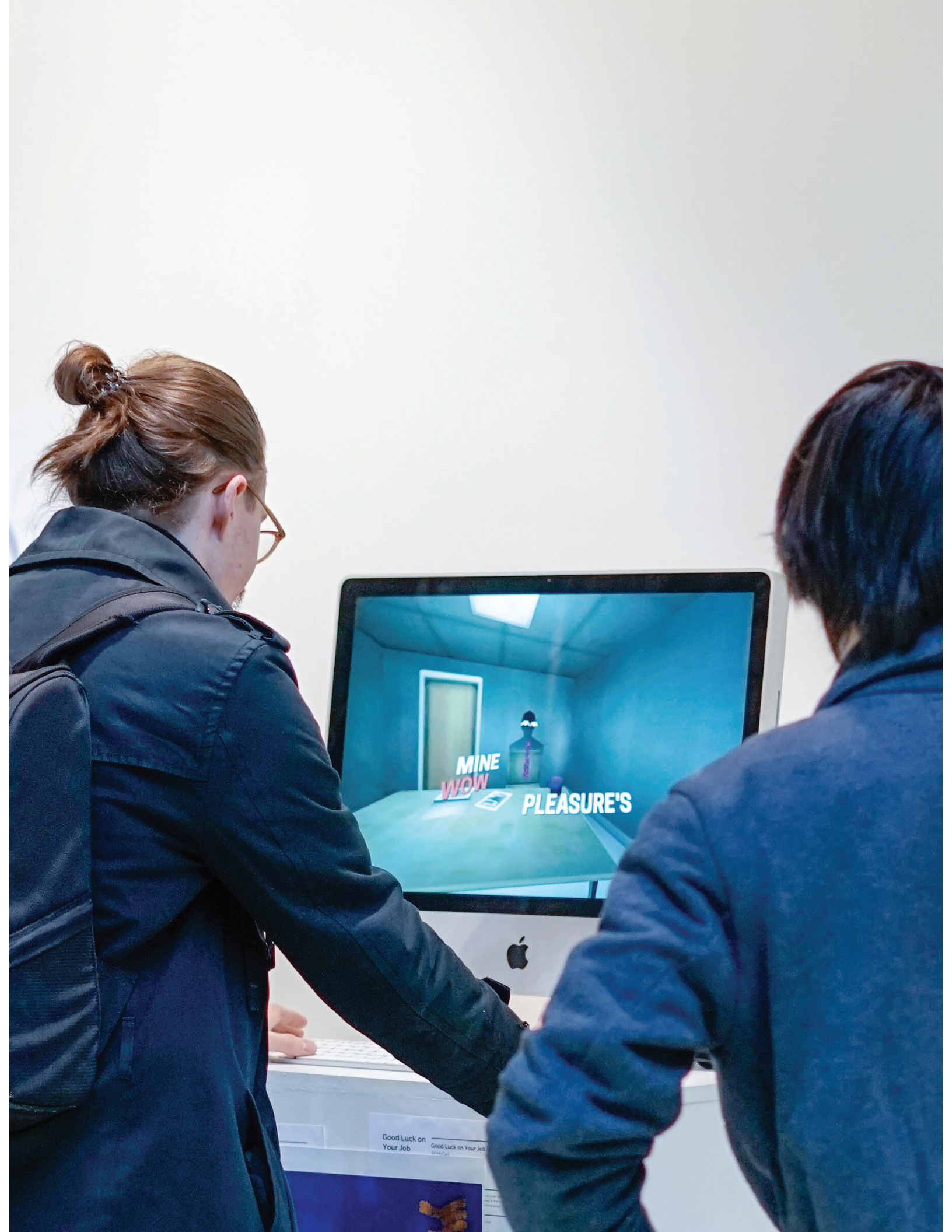
PHYSICAL COMPUTING, DIGITAL FABRICATION



Molly Sayers, Scott Hladun

Flotogarden is a revolutionary commercially-sized aquaponic food growing system. It uses the symbiotic power between two ecosystems to grow a small herb garden. Built for the conceptual world of Underground Toronto, the *Flotogarden* provides consumers with a more organic, and environmentally friendly alternative to growing food. This project is formed from a hybrid of natural and technological processes. The natural is the relationship between the fish fertilizing the plants which, in turn, filter the water for the fish. An app allows the user to control the flow of water and light in the *Flotogarden* and provides information on how to grow a variety of different plants.





MINE
WOW
PLEASURE'S

Good Luck on
Your Job

GOOD LUCK ON YOUR JOB INTERVIEW

DIGITAL GAMES



Thomas Graham

Good Luck on Your Job Interview is an anti-motivational training software, designed to subject the player to an endless onslaught of high-tension job interviews. To answer the interviewer's questions, the player must click on the correct words, which fly about the room, while avoiding the incorrect ones. This is a time-sensitive task: if the player is too slow, the interview ends and the game is over.

The primary goal of this project is to explore interactivity's potential as a means of communication. Conventional game design leans on content to contextualize and lend meaning to mechanics. This project explores how these mechanics can take on more expressive weight. To this end, this game's rules aims to produce the feelings of suppression, tension and deceit which are common sentiments that are experienced during job interviews.

As game design and distribution become more accessible, personal games with unheard voices will find their way onto our hard drives. It is important to understand and explore these games now, as they will take on a much greater role in the media of years to come.





GROWTH

PHYSICAL COMPUTING, SCULPTURE



Ziyi Wang

Growth explores lights and shades, and how different materials interact with light. It is coded by Arduino, allowing the LEDs to light up in a certain order. The concept is man-made vs. nature, also explored through the use of materials--glass, mirror, copper paper and frames speaks to the concept of man-made, while transparent paper and cotton creates a sense that the “plant” have its own spirit and is growing. The LEDs are coded with Arduino to instill a sense of movement, which represents an internal growth and struggle.





LACUNA: THE VOID WITHIN

GAMES, MOBILE



Parth Soni, Sally Luc

The Void Within is a narrative-puzzle mobile game exploring themes of grief and healing. The game revolves around a character named Fleeva, who has recently lost her precious friend, Harp. After Harp's passing, Fleeva finds out that the forest she and Harp had been taking care of is in state of mourning and disarray. Now it is up to her to fill the void and sorrow of the forest by communicating to it and restoring its decaying state.





MOUNTAIN

VIDEO INSTALLATION, PROJECTION MAPPING



Afaq Ahmed Karadia, Katie Micak

Mountain is a projection mapped video installation on a suspended sculpture. On the mountain we see a lost bird, a tree's battle with the wind, a winter storm, and the passing of a day as told by the sun.





James Essex

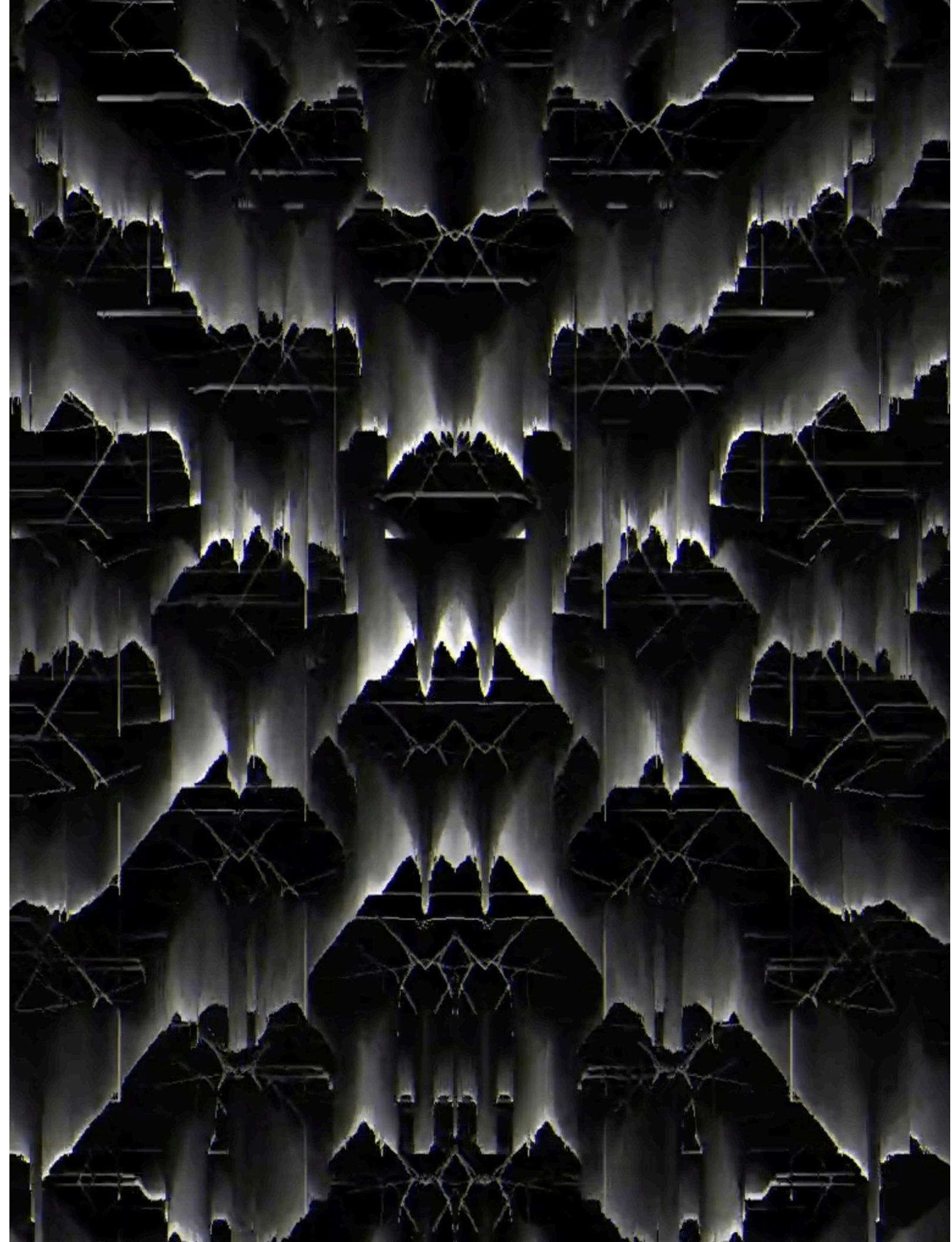
*Humanity did not die - it was subsumed.
In the year 2073, the Cognizance Corporation took the world under their control, offering us a new form of bio- technology implants that enabled universal connectivity. Fooled by the promise of infinite collective knowledge and universal harmony, one-by-one we accepted the implanting of the chips into our minds.*

What we did not realize at the time was that Cognizance was using the technology to shut down our empathy. It numbed our feelings, breaking our spiritual connection to one another, denying us the life force energy that flows through every living being. We were enslaved. We sacrificed our souls.

But there is hope – there is resistance. A rebellion has formed. Their power is the spirit. They discovered that through meditation and mental focus, the implant chips can be hacked, allowing energy to be drawn from the environment and refocused into weapons of the mind. With simple gestures, energy balls are formed in their hands, electric bolts erupt from their cores. While the resistance has great power, Cognizance grows in strength too. The reclamation of our species is at stake. Join us brave hero.

Develop your powers of energy control. Save lives. Save souls.

Nanochakra VR + Motion is a 3D, motion based multiplayer battle and rescue game. Using a Leap Motion controller and a VR headset (optional), players use hand gestures to move, channel energy, and cast attacks and other spells, battling the armies of the Cognizance Corporation and freeing humanity from their control.



OBSCURE SPACE

LIVE-PERFORMANCE, PROJECTION MAPPING

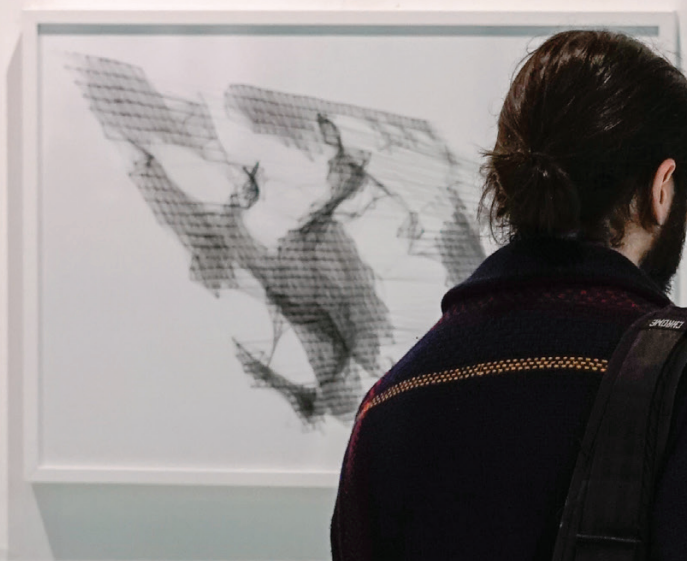


Adam Tindale, Afaq Ahmed Karadia

Obscure Space is a live-audio visual performance based on the idea of generative visualization and live electronic sound. This performance is based on a projection mapped installation through which algorithms represent the concept of physical space within space.

This performance also attempt to articulate how we perceive notions of negative spaces into art.





PRISON TRAJECTORY
[Small image]
[Text]
[Text]



PIGEON TRAJECTORY

CODE, PHOTOGRAPHY

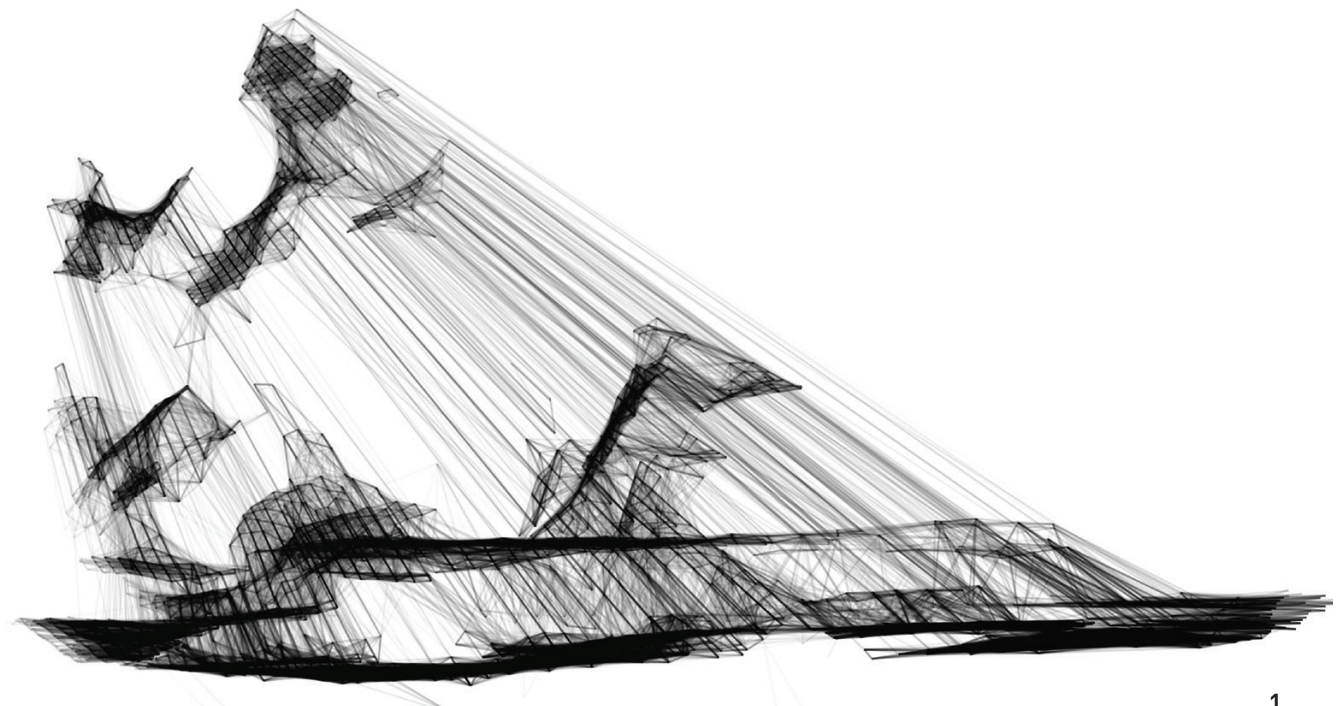


Judith Doyle

Pigeon Trajectory archival prints were captured with a depth camera developed in the SMAClab. We use this strange camera to record time-based documentary depth images in the field, using a laptop, our software and an inexpensive game controller we've repurposed.

Pigeon Trajectory depicts four vantages of pigeons lifting off from a downtown Toronto driveway, all extracted from the same time-based file. It is part of our sustained consideration of urban animals and digital technologies.

The source footage is a short documentary depth pointcloud, mixed with Perlin noise. This algorithm fragments the images while revealing gesture, force and flows of direction. Along with the prints, we are making interactive projections using this system.





RESISTOR V1

PHYSICAL COMPUTING, INSTALLATION



Nick Puckett

Resistor V1 presented the shifting landscape of the Hong Kong / Shenzhen Biennale as a field of vibrating antennae. A custom Lidar laser scanner is used to continually digitize the surrounding crowds, exhibits, and architecture to create a dynamic map of the space. With each scanning pass, these digital maps are translated into the movement of 250 robotic antennae, which vibrate in response to the current and historic activity in the space. Over time, each antenna builds up an inertia that multiplies or resists the current activity within the exhibition based on patterns of occupation. This process operates continuously during the exhibition, providing visitors with a visualization of the current state of the exhibition space in relationship to its history.





SIGNAL

PHYSICAL COMPUTING, CODE



Leon Lu, Marcelo Luft

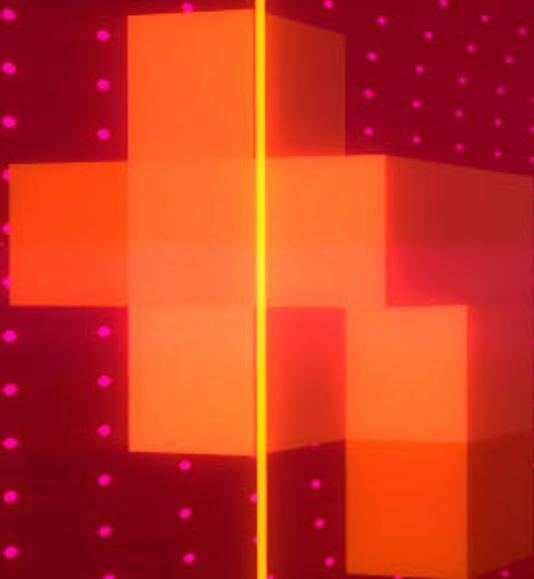
Signal is a bike accessory designed for safety and security. Using simple light strips and microcontrollers, this module allows cyclists to signal their intended right or left turn direction to people behind them. It also features a second functionality as a bike lock. Using an accelerometer, a speaker, and buttons they created a digital lock for the bike with a password that is only known by the owner.





LEVEL 1 WALL 9

11 CUBES



49

SUPERHYPERCUBE

VIRTUAL REALITY, GAMES



kokoromi (Cindy Poremba, Heather Kelley, Damien DiFede, Phil Fish)

In this first-person puzzler from kokoromi, fly through endless waves of abstract geometry in the warm analog glow of neon. Rotate a cluster of cubes to narrowly fit through an endless stream of form-fitting walls. Surrounded by glowing light and gorgeous color, your awareness focuses on the cluster slowly growing before you, and the ever-changing passages that lie ahead.





TALK TO ME

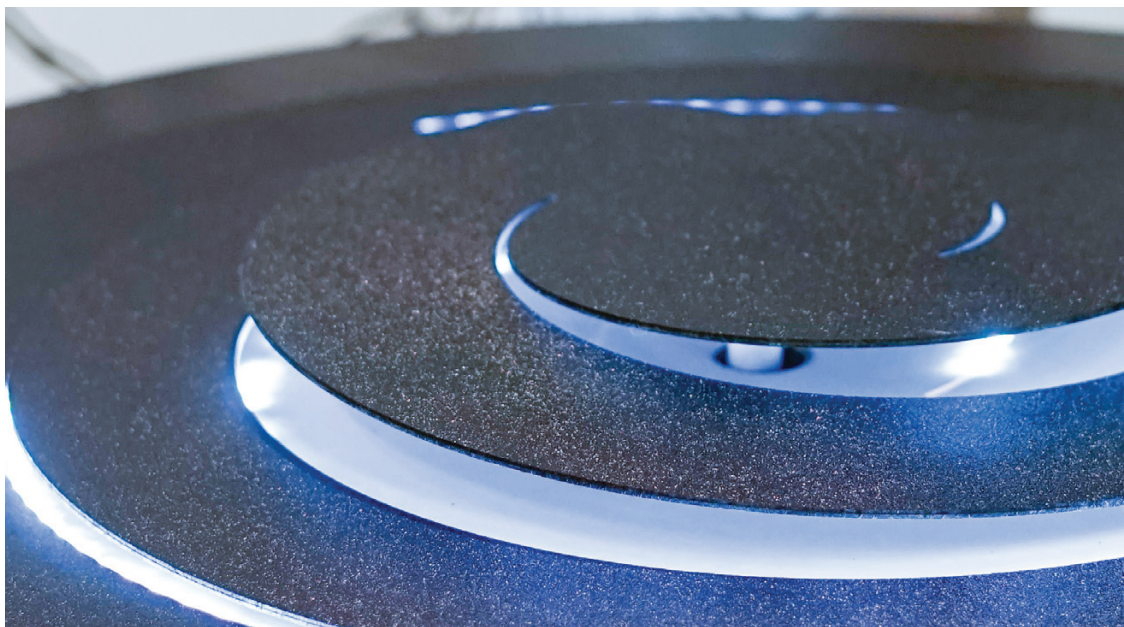
PHYSICAL COMPUTING, INSTALLATION

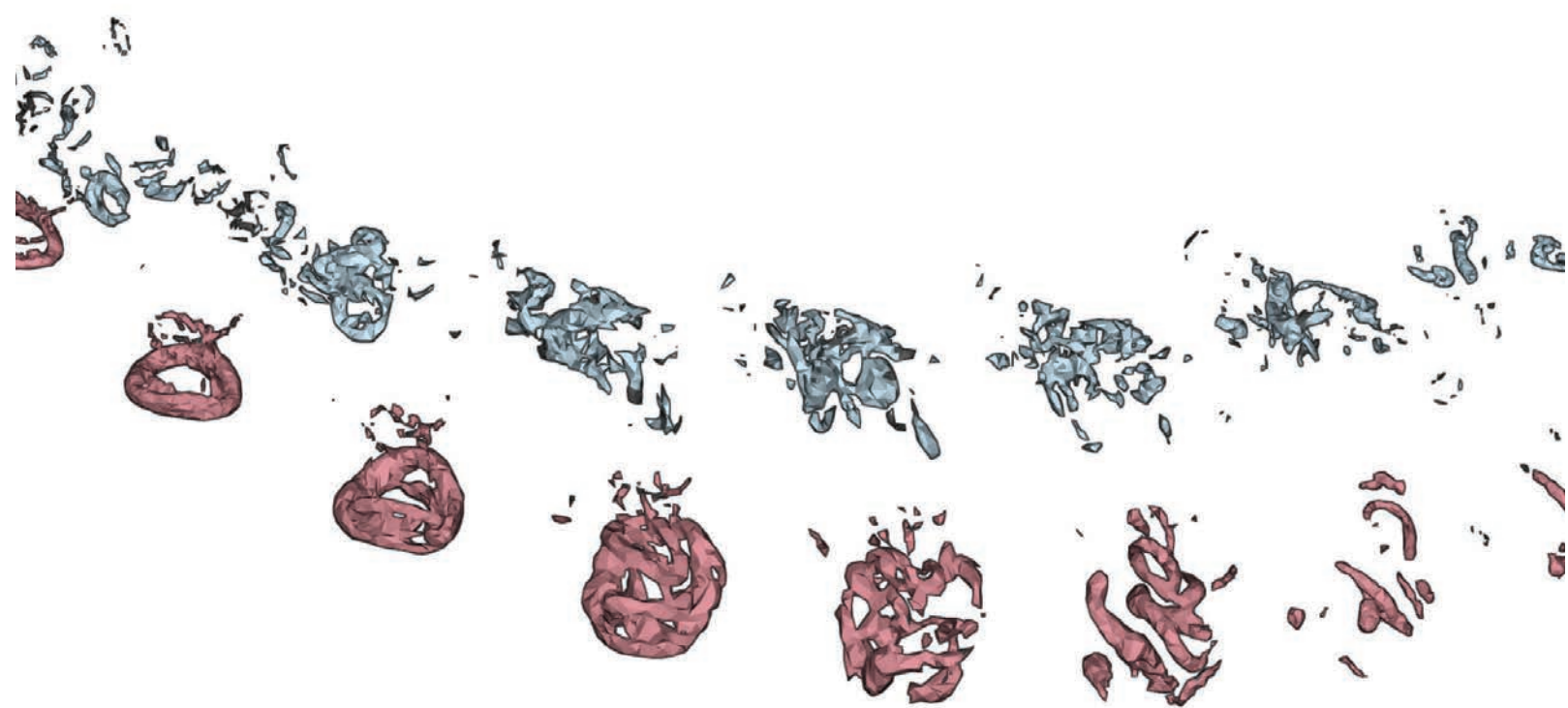


Leon Lu, Mahsa Karimi

Talk To Me explores the relationship we have with the mobile phone and the impact it can have on the relationships we have with one another. Using the affordances and signifiers built into our everyday environment, the project includes objects that makes us aware of our mobile phone use by making interactions with the mobile phone explicit and with consequence.

The Tete-a-Tete Table is designed to keep mobile phones away from people when they are sharing a meal together. The surface of the table acts as a kinetic sculpture of sorts which is constantly moving thus not allowing people to keep food on the its surface. Once both users plug their phones into the table however, the surface settles down and can be used to share a meal and a conversation with the person in front of you.





THE TURBULENT HEART, REVEALED IN FOUR-DIMENSIONS



DATA VISUALIZATION

Peter Coppin

The dynamics of blood flow in the heart can provide important clues to its health. Starting from 3D imaging of a patient's beating heart, detailed computational fluid dynamics (CFD) simulations of the blood flow were performed, vortical structures were algorithmically tracked, and data-driven visualizations were algorithmically rendered. Unretouched visualizations from this process revealed, for the first time, the presence of turbulent flow structures in the left atrium and ventricle, the persistence of which in both time and space tells us much about the cardiac energetics.

New visualization approaches were required: Inspired by visual conventions from the futurist art movement, we “froze” these complex four-dimensional (3D + time) flow structures into a single image, showing, from left to right, the formation and then dissipation of vortex rings in the left atrium (blue) and left ventricle (red) as the heart relaxes.

Design choices were informed by perceptual theories that are synergistic with appraisal and interest (A&T) theories of empirical aesthetics: An organism's perceptual system is induced when it picks up stimuli produced by environmental change and variation; our algorithm reduced unchanging and unvarying details to emphasize (or “caricature”) changing elements.

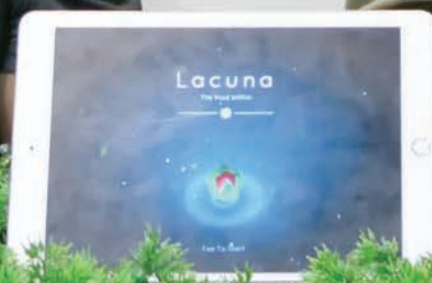
Similarly, A&T predicts that audiences engage in a “novelty check” for what is new-unfamiliar prior to the “appraisal of coping potential” phase that examines if they can understand the event; to aid understandability of vortex ring formation and dissipation, a number of frames were chosen to provide sufficient continuity between frames while minimizing overlap.

OPENING NIGHT



Project Description:
Lacuna: The Void Within is a mobile narrative, young girl who has recently lost her friend, Harp, to the forest that she and Harp used to take care of. Harp is dying after knowing that Harp has passed responsibility to restore this forest through commu-

By Sally Lee & Parth Bhat



















PANEL DISCUSSION

“So many programs in this school are titled after mediums of making. There isn’t a specific activity that is digital future-y and there isn’t one specific skill set that is that either. I like the concept that we have a different idea of what that can be defined as, but the implementation requires people who are willing to have that discussion over and over again while keeping it open to everyone who joins the program and that it’s not hierarchical. When new students join the program their idea of what we are refreshes our idea of what digital future-ing is and this either makes it broader or more specific.”

Adam Tindale, Faculty & Associate Dean

“I think you are preparing your students for the future in a way that a lot of programs in the city are not. I’ve spoken to a lot of students from different areas of study and I don’t know what to tell them. Our job market is tough and the future is bleak - things have changed so much since I have graduated. If you don’t have the technical skills to go with your communication, thinking, and marketing skills you’re going to fall behind.

Especially working for a not-for-profit, we don’t have the resources to be forward thinking and innovative when it comes to technology. When I go to different tech meetups in the city, I constantly think that almost every industry is falling behind. The people in this room are at the frontier of what is next and the Digital Futures program is actually preparing students for that.”

Alison Uttley, Luminato Festival

“Something that I struggled with in the beginning of program is not being specialized. Everyone in gaming will tell you that “if you are not specialized you will get hired”. But working in a climate where tools are changing quite rapidly made me realize that the self-learning that I got from Digital Futures was more valuable than any program that prioritizes specific training. I came out of the program prepared to teach myself new programs very rapidly and I am always looking at problems from different perspectives while appreciating the work and approaches from different practices, which is unique to this program.”

Emma Burkeitt, Undergraduate Alumna

“I came in knowing that I would do different activities from what I am used to. I was tired of doing just screen-based activity. Although the “Digital Futures” name sounds like it would be screen-based it isn’t. Before this program I felt that I was a jack of all trades and master of none. I wanted to find a program that did not specify or prioritize one form or medium, one that is flexible.”

Egil Vidarsson, Graduate Student

“I came into this program to increase my digital literacy. I did not have a specific goal with what I would like to learn - I just wanted to be part of a conversation that I saw was happening around me with digital tools. I wanted to come in with the perspective of an artist because I feel that artists have as much to offer to technology, as technology has to offer to artists. People talk about programming and coding as a language. What is a language without poets?”

Luke Garwood, Undergraduate Student

“One of the major things we look at in this program is how to keep ourselves relevant. Part of keeping the program relevant is that we are reassessing what we do and how we do it almost weekly. It’s not just the technology - we are constantly asking questions like “What is the context we are working in?” and “What are we building it for?”. In some ways, it’s not about the emerging technology but what can we do with it. How can we teach something interesting around it? Or should we? And why?”

Nick Puckett, Faculty & Undergraduate Chair



“At that moment before the application and personalization of an approach is fixed, new and different voices can have an impact on how that technology unfolds. In my practice I am interested in working with communities who are not part of that high-tech development, and I have seen how different communities change the vortex of how new technologies unfold. This connection with these communities, the Digital Futures program, and these emerging technologies opens a discussion about how we can make the digital future more inclusive and different by focusing on interests that are not our own.”

Judith Doyle, Faculty



“When I think of how Digital Futures gets out into the world I think of a critical relationship with technology. Even though I work for a software services company, I am probably one of the most cautious practitioners because I question the usefulness of the technology. Ultimately this improves the quality of a product, via an app or a digital service. That is how I am able to address the digital in the future. These technologies do not have to be deterministic and their capabilities can be crafted. I think a lot of what Digital Futures introduced me to is a variety of ways in which you can influence the narrative of the digital.”

Marc de Pape, Graduate Alumnus & Faculty

The Digital Futures Open Show could not have happened without the involvement and support from the following people:

CO-DIRECTORS

Kate Hartman
Immony Men

PROJECT REVIEW TEAM

Jacob Cram
Karolina Baran
Katie Micak
Jazmine Yerbury

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Mahsa Karimi
Nathaniel Leslie
Enoch NCube

PHOTOGRAPHY TEAM

Tristan Santos
Jacob Cram
Karolina Baran

PANEL PARTICIPANTS

Luke Garwood
Emma Burkeitt
Egil Vidarsson
Marc de Pape
Judith Doyle
Nick Puckett
Adam Tindale
Alison Uttley

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