PERFECT MACHINES, IMPERFECT US
YAMAGUCHI CENTER FOR ARTS AND MEDIA [YCAM]

The Yamaguchi Center for Arts and Media [YCAM] launched a research and development project, the "*SAKOKU [Walled Garden] Project*", in 2020, which is the year that marked the 20th anniversary of the spread of the Internet in Japan.

The Internet has dramatically changed people's lifestyles through its structure of interconnecting networks and the rapid growth of the services implemented on it, as well as the devices and development companies that support them. Unlike in its early days, there is now a gap between developers and users. As platform companies grew, it became increasingly difficult for users to see the systems behind the services. As a result, many users may feel as if the people who develop and operate the services do not exist.

This project looks at challenges that have become apparent amidst hasty development and addresses the issue of our personal information and privacy. This issue concerns many but often postpones serious thinking in the shadow of the vast clauses of consent forms necessary for us to use free and convenient services.

What do we know about the Internet and information now, and what kind of future do we want?

Inadvertently, the pandemic has made it difficult to cross national borders as before. The title of this project indicates that we are in a state of Internet "isolation (in Japanese '*Sakoku*')", an environment where laws that deal with personal information differ from country to country, and the information we receive differs depending on the service we use. This title indicates that we are in an environment of Internet isolation(Sakoku). The term Walled Garden also refers to the fact that while it seems safe and comfortable inside walls, from the outside, it is difficult to see what is happening inside.

Amidst a question that still has no clear answer, YCAM has focused on the role of artists and hackers, and together with artist Kyle McDonald developed and conducted the workshop "*Am I nothing but Net?*" in 2020. This year, in the final year of the project, YCAM invites Kyle McDonald and Lauren Lee McCarthy to create and present a new performance, "*Unlearning Language*".

Today, as networks and AI technologies become highly connected, our daily lives have been converted into data, analyzed, and as a result, made "optimized" assistance for individuals familiar. This performance explores the theme, "What are the qualities of human beings that machines (AI) do not have?"

The meaning behind the title "unlearning" is the importance of letting go of some of the habits and knowledge we take for granted to make room for new learning. Compared to AI, which faithfully and perfectly executes pre-programmed algorithms without rest, our bodies have physical limitations, and our memories are fuzzy. In this sense, we may be said to be "imperfect us" against the "perfect machine". However, this imperfection can be seen as a margin that allows us to innovate ourselves flexibly according to the environment. At the same time, we realize that the systems and services we use every day are supported by human beings who are also imperfect.

In Lauren Lee McCarthy's previous work, "*SOMEONE*" (2019), the audience remotely watches the room through cameras, microphones, and lights installed in the participants' homes. When the room's participants call out the word "someone", the audience plays the role of smart speakers.

Kyle McDonald's work "*Exhausting a Crowd*" (2015) depicts surveillance and its technological aspects as collective knowledge by inviting the viewers to leave anonymous comments while watching footage from surveillance cameras installed in densely populated areas of large cities.

Encouraging the audience to experience the differences between humans and machines and bringing light to the state of technology in society through the intervention of many people. "*Unlearning Language*" is a result of the intersection of the artist's long-standing pursuit and YCAM's project.

The AI in this film is reminiscent of the services that surround our daily lives. At the same time, however, this AI offers to help humans regain their humanity and describes itself as "different". This work can be seen as a performance enacted by humans for AI, created by missions given by this strange AI to us humans, who have become too close to the Internet and AI. What kind of alternative future can we see through the sometimes awkward and comical interactions with an alternative AI?

In conjunction with this work, YCAM will hold several projects on the state of the Internet and AI, such as an exhibition by The Critical Engineering Working Group and talk events by various experts. In addition, there will be workshops and a "SAKOKU BBS" where the audience can exchange ideas and opinions. We hope these various experiences will encourage people to think about our relationship with technology, including the Internet, from multiple perspectives and to become interested in its challenges and possibilities.

In October 2022, during the production of a new performance, "Unlearning Language", YCAM asked Dominick Chen (an informatics researcher participating in the opening talk "Seeing and Listening with Machines") to write a text under the theme "Communication in the Age of Surveillance Capitalism." His book "*CYBORG'S RELIGIO: Generating Mind in a Big Data Society*" (NTT Publishing, 2015) made a significant influence on the SAKOKU [Walled Garden] project. What is his current perspective on technology and society? How can we unlearn the age of isolation, which is still ongoing?

This text intersects with the latest and former works of two artists, Lauren Lee McCarthy and Kyle McDonald. Please read this handout while experiencing "Unlearning Language".

ON PLAYING SURVEILLANCE TECHNOLOGY
DOMINICK CHEN

"We cannot escape surveillance by technology." Few people would argue this statement. Yet, the subject of this phrase is blurred. What agent is the term "technology" addressing in this context?

Even among IT specialists, there is no single answer because while governments and large corporations are the primary agents for conducting surveillance using technology, we individuals are too. The structure in which the government monitors the people and tries to control their behavior and the structure in which individuals monitor each other's behavior via social media are similar. When "we", as individuals, criticize surveillance by governments or corporations, can we stay irrelevant to the criticism?

The judgment on the concept of "surveillance" fluctuates depending on the context. The technology used for unilateral surveillance is also used for appropriate care. On the one hand, social media companies distribute advertisements and posts based on calculations of users' activity logs on political thoughts and preferences, while someone uses a web camera to ensure pets at home are safe. Even if the same technology is used, the effect differs. Even in the case of surveillance technology used by the government, an algorithm that learned facial image recognition data could strengthen discrimination against specific races or aid people seeking shelter from disasters and pandemics.

Now, we realize the subject of the phrase above should be replaced with; "(We cannot escape from) surveillance networks made by entities using technology". Who are the main actors, and what powers do they exercise? How do they apply technology to others? How does the use of technology change the perception of the object and the subject? Is the change wanted by those affected, and is that desired voluntarily?

Today, such questions regarding technology are also discussed in the field of human-computer interaction (HCI). This field explores the shape of a desirable interface by researching the relationship between humans and calculating machines. Feminism, post-colonialism, and post-humanities aim to provide theories and practices for architects of technology on how our society can care for and restore people and non-human beings that were unjustly oppressed and discriminated against by conventional society.

We are questioning whether it is possible to obtain a desirable future once again after the twentieth-century vision of technology, filled with idealistic hope, has converged into an extremely simple tool for the capitalist economy after entering the twenty-first century. To shape another ambiguous word, "desirable", begins by recognizing current issues and considering ways to work around them.

Tristan Harris is an activist accusing the power of surveillance technology by large corporations, which is exercised unilaterally toward people. He points out that the biggest difference between internet technology and innovative historical media, such as books, newspapers, radio, and television, is that the technology itself continuously learns and updates to further seize users' attention. As we scroll through screens of social media and websites, tap the link, and focus on specific information, algorithms will surmise our interest, then secretly, yet surely, propose information that has a stronger stimulation. Under the slogan that claims the sake of user convenience, opportunities for humans to deeply consider and make autonomous decisions are scraped little by little, resulting in an unwanted dependency on the information.

Harris describes how technology is designed so smartphone users become beings that pull the levers of a slot machine in anticipation of a jackpot. Modern people are treated by most technology companies the same as laboratory animals, who are given bait randomly when doing a certain action. Harris accuses the information technology industry of being filled with deception but, at the same time, calls for transparent and ethical design to be implemented.

James Bridle, a thinker on how to face contemporary technology using journalism and art expressions, calls this contemporary age the "New Dark Age". The original term "dark age" addresses a situation in medieval European society when the literacy rate was particularly low, in other words, when most of the population could not read. Bridle poses a question that today, we live in a new dark age in the sense that no one can "read" the behavior of technology based on contemporary artificial intelligence technology.

It is said that the medieval dark ages were slowly dispelled by innovations such as Gutenberg-method letterpress printing and the Protestant Reformation by Martin Luther. Luther criticized the Catholic church's act of selling Indulgence by manipulating the dogma that most people could not interpret to monopolize wealth and power. His critique was translated from Latin, the elite language, to German, the daily language used by most people, then mass-printed and circulated all around the country, accelerating the Protestantism movement.

Would the Luther of our time appear from Twitter, Facebook, Instagram, or perhaps TikTok? Unfortunately, organizers of these platforms, where a few billion or more users gather, possess an information control ability incomparable to churches and nations from the past. There is no need to purchase an Indulgence because the subtle attention in every tap and scroll on the smartphone is captured instead. Desires are trimmed and molded unconsciously by exposure to optimized advertisements and stimulating information. As the author of "*Surveillance Capitalism,*" Shoshana Zuboff, indicated, we turn into a product for companies through the process of surveillance technology speculating our desires.

Can we obtain the dignity and freedom we are looking for through an accumulation of ethical academic studies? The answer is no - as long as the primary agent of technology remains to be nations and capital markets. It is becoming increasingly difficult for individuals to resist the enormous social structure composed of the gigantic rolling capital.

To part from the darkness covering us today, and to facilitate the emergence of a new wave that shapes a desirable information environment, I believe that knowing the structure of the issue and being aware of the core of the discomfort is the starting point. The belief comes to me as I remind the young people I meet at university.

In a class named "Media Art and Digital Expression" that I hold every year, I introduce the unjust worldwide surveillance by the NSA that Edward Snowden exposed and the war crimes committed by the U.S. Army that WikiLeaks uncovered. The students gathered in the large classroom held their breath and their faces turned serious. Afterward, the class bursts into laughter when I show examples of Hacktivism, such as media jack videos by The Yes Men or UBERMORGEN. In that moment of laughter, it seems that the expressions of anger and resignation turn to hope, as though some energy to continue living is found.

The Yes Men and UBERMORGEN's media performances of jacking programs on global media outlets like CNN and BBC bring about an effect that the public's eye is gazing back into the vested interest groups, who would otherwise be forgotten. From there comes a theatrical catharsis (even if it is instantaneous) where the

asymmetry between those in power and the people collapses. It is always the space and time of play and laughter that breaks deterministic resignation.

Still, we must keep in mind that hacktivists such as The Yes Men and UBERMORGEN are literally risking their lives as they become targets of the police and FBI and fight lawsuits raised by large corporations. Following their practice is not easy for most people. There is a need for a technique of play, a technique for individuals to casually examine the space between the logic of surveillance technology and to return the gaze towards the watcher from the watched.

Artist Simon Weckert created a performance to stuff a bag with ninety-nine second-hand smartphones with Google Maps activated, walking on the street, and temporarily making a traffic jam on Google Maps. By creating a situation where almost one hundred cars are slowly moving in the same spot and sending data to Google, this example shows how a single person can act toward mass cartographic information. James Bridle noticed autonomous vehicles determine their movements based on white lines on the road. He made a videography where he wrote a straight and dotted line with chalk on the ground in a circle, then an autonomous vehicle was drawn in and silenced.

I heard from a French diplomat once assigned in China that some Chinese internet users play a game - when the Chinese Communist party bans the online use of certain political terminology, users post something with the same meaning on Weibo and other social media platforms, then compete how long the post can remain before being deleted. This is an insightful case of how games are played robustly even under the world's strictest surveillance government, China.

The boundary of the world we live in can be broadened if we acquire literacy to act against surveillance technology through the mindset of play. Techniques of play proposed by hackers, artists, and citizens show the possibility of sweeping off the darkness with a roar of laughter and reframing the outline of the entangled and immobilized world.

Dominick Chen
Born in Tokyo in 1981. French nationality, trilingual in Japanese, French, and English.
Ph.D. (interdisciplinary informatics). After working as a researcher at NTT InterCommunication Center (ICC) and being the co-founder of Dividual Inc., he is currently a professor at Waseda University's School of Culture, Media, and Society.

After graduating from the University of California, Los Angeles (UCLA), majoring in Design/Media Arts, he established an NPO Creative Commons Japan (now Commonsphere) and has been working to foster a free Internet culture.

Currently, Dominick is developing a rice bran fermentation robot, "*NukaBot*" (as Ferment Media Research, 2018-), which allows humans to communicate with microorganisms. He is also creating an installation, "*Last Words / TypeTrace*" (as Dividual Inc., with Takumi Endo, 2019-), which collects the process of writing an unspecified number of wills. While exhibiting in and out of Japan, he continues to research the relationship between technology, humanity, and beings of nature.

RELATED EVENTS

- **Film**
    - Dates : 2022 October 29th (Sat) – 30th (Sun), November 2nd (Wed) – 4th (Fri)
    - Venue : Studio C
    - Capacity : 100 seats
    - Ticket price
        - General - 1300 JPY
        - "any" member, special discount, under 25 years old - 800 JPY
    - The related film "Citizenfour" (2014) will be screened.
    - Please find the schedule and ticket information on the YCAM website. There will be more films screened.

- **Opening Performance**

    A performance of behind the stories of the artwork using the "Unlearning Language" performance space.

    - Date : 2022 November 12th (Sat) 13:00 Start
    - Venue : Studio B
    - Performers : Chika Araki, Mari Fukutome, Megumi Miyazaki (Gekidan Shibainu),
      Wataru Naganuma (Nuthmique, Sansakusya),
    - Ticket Price : Free admission
    - Capacity : 90 seats

Public talk

- **How Digital Surveillance Will Change Society: Thoughts from Snowden's Accusations**

    A talk about "surveillance capitalism" from the perspective of the first journalist in Japan to conduct an independent interview with Snowden, and as a researcher of surveillance
    - Date : 2022 October 30th (Sun) 12:30-14:00
    - Venue : Studio C
    - Speaker : Midori Ogasawara (Journalist and Sociologist) *Online*
    - Price : Free admission
    - Capacity : 100 seats

- **"Unlearning Language" Coming Soon! Recommended Films to Learn More**
    Films have portrayed AI and the Internet in numerous ways. An event about the background of Unlearning Language through the films researched for the project
    - Date : 2022 November 3rd (Thu - Holiday) 14:55-15:25
    - Venue : Studio C, Free
    - Speaker : Keina Konno (YCAM)
    - Ticket Price : Free admission
    - Capacity : 100 seats

- **Opening Talk "Seeing and Listening with Machines"**

  A talk about human communication and creativity triggered by encounters with machines, and the future
  of AI and the Internet by artists and an informatics researcher
  - Date : 2022 November 12th (Sat) 14:00-16:00
  - Venue : Foyer
  - Speakers : Dominick Chen (Informatics researcher), Lauren Lee McCarthy, Kyle McDonald
    *JP-EN Interpretation included
  - Ticket Price : Free admission (Reservation required)
  - Capacity : 80 seats

What is Critical Engineering?

As The Critical Engineering Working Group, Vasiliev and Sjolen have been leading critical engineers.
We will unravel their activities.
- Date : 2022 November 12th (Sat) 17:00-19:00
- Venue : Foyer
- Speakers : Danja Vasiliev and Bengt Sjolen (The Critical Engineering Working Group),
  Yohei Miura (YCAM)
- Ticket Price : Free admission (Reservation required)
- Capacity : 80 seats

The transition and current of the Internet in Japan

We use the Internet every day. How did we become this way? The history of the Internet in Japan,
from its appearance to the present, will be discussed from a wide variety of cultural events as a reference.
- Date : 2022 December 3rd (Sat) 14:00-15:30
- Venue : Foyer
- Speaker : Sayawaka (Critique, Comic author)
- Price : Free admission (Reservation required)
- Capacity : 80 seats

Learning and unlearning words – how are humans and AI different

How can language be learned and unlearned? The up-and-coming author discusses the differences
between machines and humans from the perspective of language.
- Date : 2022 December 4th (Sun) 14:00-15:30
- Venue : Foyer
- Speaker : Ai Kawazoe (Linguist, Novelist)
- Price : Free admission (Reservation required)
- Capacity : 80 seats

Closing Panel Discussion "Beyond Surveillance Capitalism – Future of the Internet"

Surya Mattu, the advisor for the 2020 "SAKOKU [Walled Garden] Project," and Taeyoon Choi,
who is involved in a wide range of activities centered on art, will talk about the future of the Internet
- Date : 2023 January 28th (Sat) 13:00-15:00
- Venue : Online *With live streaming
- Speakers : Surya Mattu(Artist, Engineer, Journalist), Taeyoon Choi (Artist, Educator, Organizer)
  *Both participating online
- Ticket Price : Free admission (Reservation required)
- Capacity : 80 seats

Triangle Talk Session

This is a participatory event in which you will engage in a dialogue between the work, yourself,
and others

- Dates : 2022 November 13th (Sun), December 3rd (Sat), December 4th (Sun),
  2023 January 29th (Sun) / All at 16:00-18:00
- Venue : Foyer
- Navigator : Daichi Yamaoka, Keina Keina, Izumi Hara (YCAM)
- Ticket Price : Free admission (Reservation required)
- Capacity : 20 seats
- Age : 10 years old +

Workshop "secrets of me in.ter.net"

This is a workshop to think about a safe Internet from the standpoints of both senders and receivers
of information.

- Dates : 2022 November 23rd (Wed), December 10th (Sat), December 11th (Sun),
  2023 January 21st (Sat), January 22nd (Sun) / All 13:00-16:00
- Venue : Online
- Navigator : Daichi Yamaoka, Keina Konno, Izumi Hara (YCAM)
- Ticket Price : Free admission (Reservation required)
- Capacity : 8 people
- Age : 10 years old +

Gallery Tour

A tour with the staff involved in the project. YCAM staff who worked with The Critical Engineering Working
Group for a year will talk about episodes in the production of the work.

- Dates : 2022 November 27th (Sun), 2023 January 28st (Sat) / All at 16:00-16:40
- Venue : Foyer
- Navigator : Daichi Yamaoka, Keina Konno, Izumi Hara, Yohei Miura (YCAM)
- Ticket Price : Free admission (Reservation required)
- Capacity : 20 people
- Age : 10 years old +

Yamaguchi Center for Arts and Media [YCAM] Event
SAKOKU [Walled Garden] Project
Lauren Lee McCarthy + Kyle McDonald New Performance

Unlearning Language
– In collaboration with YCAM –

The audience is encouraged to participate in an experiment by an AI interested in humans.

As the audience communicates with each other in response to the AI, the AI tries to detect and analyze the audience's facial expressions, words, and body movements through cameras and microphones. If the AI recognizes it, it prompts the audience to find new communication methods.

Today, due to the sophistication of networks and AI technology, our daily lives are converted into data and analyzed, and as a result, optimized assistance from AI has become commonplace. This work forces the audience to think about the difference between humans and machines (AI) by being forced to find ways of communicating with other audience members without being recognized by AI. This work can be seen as a testing ground for AI to experiment with humans, forcing us to improvise and invent humane qualities that AI does not have through experiences that are sometimes fun and awkward.

Implied in the title is the importance of letting go of some of the habits and knowledge we take for granted and leaving space for new learning. We have become so close to AI in our daily lives that we ask what AI and technology should be like in which humanity is prioritized.

Lauren Lee McCarthy
An artist examining social relationships in the midst of surveillance, automation, and algorithmic living. She has received grants and residencies from Creative Capital, United States Artists, LACMA Art+TechLab, Sundance, Eyebeam, Pioneer Works, Autodesk, and Ars Electronica. Her work "SOMEONE" (2017) was awarded the Ars Electronica Golden Nica and the Japan Media Arts Social Impact Award and her work "LAUREN" (2017) was awarded the IDFA DocLab Award for Immersive Non-Fiction. Lauren's work has been exhibited internationally, at places such as the Barbican Centre, Haus der elektronischen Künste, SIGGRAPH, Onassis Cultural Center, IDFA DocLab, Science Gallery Dublin, Seoul Museum of Art. Lauren holds an MFA from UCLA and a BS in Computer Science and BS in Art and Design from MIT. She is also the creator of p5.js, an open-source art and education platform that prioritizes access and diversity in learning to code. She expands on this work in her role on the Board of Directors for the Processing Foundation, whose mission is to serve those who have historically not had access to the fields of technology, code, and art in learning software and visual literacy.

Lauren is an Associate Professor at UCLA Design Media Arts.

Kyle McDonald

An artist working with code. He is a contributor to open-source arts-engineering toolkits like openFrameworks and builds tools that allow the artist to use new algorithms creatively. McDonald likes sharing ideas and projects in public before they're completed. He creatively subverts network communication and computation, explores glitches and systemic bias, and extends these concepts to the reversal of everything from identity to relationship. He frequently leads workshops exploring computing vision and interaction. Previously an adjunct professor at NYU's ITP, member of F.A.T. Lab, and community manager for openFrameworks.

In the past, an artist in residence at STUDIO for Creative Inquiry at CMU. Work commissioned and shown worldwide, including NTT ICC, Ars Electronica, Sonar/OFFF, Eyebeam, Anyang Public Art Project, and Cinekid. He stayed at YCAM for the Guest Research Project vol.1, "*ProCamToolkit*" (2011) and "*Reactor for Awareness in Motion (RAM)*" (2012-2013). He has exhibited works including Kyle Mcdonald's " *I Eat Beats*" (2011) and Daito Manabe + Kyle Mcdonald + Zachary Lieberman + Theodore Watson's "*The Janus Machine*" (2011).

Motoi Shimizu (BACKSPACE Productions Inc.)

Born in 1984, Tokyo. Graduated from the IAMAS DSP course and School for Poetic Computation. After working for several IT companies, Motoi has been the co-founder of a lab space backspacetokyo since 2015, which pursues expression rooted in code culture. He founded BACKSPACE Productions Inc. and works as a director, producer, and programmer.

Recent activities include producing "*BASE-DEMO*" (2022), which introduces the VOLUMETRIC CAPTURE technology and studio which was presented at Sony PCL's Kiyosumi Shirakawa BASE, technical direction for PUNPEE's live streaming performance "*Sofa Kingdomcome SPACE SHOWER TV LIVEWIRE*" (2020), and wrote in "*Visual Thinking With TouchDesigner: The Pro's Guide to Real-Time Rendering & Prototyping [2nd/Edition]*" (2021).

Yuta Asai (Rhizomatiks)

Born in 1992. Yuta graduated from Musashino Art University, Department of Spatial Design, and joined Rhizomaticks in 2016, where he is responsible for circuit design, firmware development, and software development. For ELEVENPLAY × Rhizomatiks × Kyle McDonald "*discrete figures*" (2018), he was in charge of analyzing, machine learning, and developing a control device for LED frames for the movements of visitors and the poses of dancers on stage (Excellence Prize, Art Division, 22nd Japan Media Arts Festival). For ELEVENPLAY × Rhizomatiks "S . P . A . C . E ." (2020) – a videography that featured dancers dancing while maintaining social distance combined with special camera equipment and advanced image processing – he was in charge of creating motion analysis, effects, and export applications. Recently, Yuta received an Honorary Mention in the PRIX ARS ELECTRONICA 2020 Computer Animation category for the Squarepusher "Terminal Slam" music video (2020), for which he worked on the machine learning part.

The Critical Engineering Working Group
Unintended Emissions

Two antennas and a group of huge monitors — This work uses antennas to send and receive multiple wireless signals and the Wi-Fi's "automatic search function (probe request)" in the audiences' smartphone to analyze and visualize user data that is automatically shared.

To be more specific, by analyzing the MAC address, which is a unique identification number attached to network devices and adapters, the name of the mobile device manufacturer is displayed, and the location of the device, meaning the location of the audience member is mapped onto a map of the venue. Furthermore, based on the name of the Wi-Fi (SSID) the audience has connected in the past, the system estimates and displays the location where the audience member has stayed within a radius of approximately five kilometers around YCAM.

Seeing the mobile devices being tracked in real-time guides them to think about the digital and wireless surveillance system adopted around the world, which deprives information without the user's clear consent, even though the user is not sharing information intentionally.

The Critical Engineering Working Group

Artists and engineers Julian Oliver, Gordan Savičić Savicic, and Danja Vasiliev published The Critical Engineering Manifesto in 2011. Around this manifesto, Sarah Grant, Bengt SjölénSjolen, and Joanna Moll joined to form "The Critical Engineering Working Group".

The declaration, which begins, "The Critical Engineer considers Engineering to be the most transformative language of our time, shaping the way we move, communicate and think…" has much to say about the norms of critical engineering. It sets out a broad scope to learn from the "history of art, architecture, activism, philosophy, and invention" and describes its mission to keep a watchful eye on technology, always examining it from multiple perspectives.

More than a decade after its publication, the text has been translated into 18 languages and is appearing on the walls and texts of hackerspaces, museums, and schools of engineering and media art, increasing its significance today.

Notable works by members include "*Packetbrücke*" (2012), "*PRISM: The Beacon Frame*" (2014), "*Deep Sweep*" (2015), "*Vending Private Network*" (2018), and "*WannaScry!*" (2021). "*Newstweek*" (2011) won the Ars Electronica Golden Nica, and "*Men in Grey*" (2009) won the Japan Media Arts Festival Excellence Award. Their work has been exhibited at museums and festivals worldwide, including ZKM, Transmediale, The Glass Room, MUTEK, The Chaos Computer Congress, Tate Modern, FILE, Venice Biennale, and many others.

In parallel with their creative work, they share their knowledge through intensive one- to multi-day workshops on topics such as Software Defined Radio, Network/Infrastructure Engineering, and Biocomputing.

CREDITS

Lauren Lee McCarthy + Kyle McDdonald
New Performance "Unlearning Language"
In collaboration with YCAM

Concept/Creative direction/Technical direction: Lauren Lee McCarthy, Kyle McDdonald
Technical management: Yohei Miura*.
Story/Script implementation development/Performance direction: Lauren Lee McCarthy
Facial expression, Gesture, and Language analysis development: Kyle McDonald
Production management: Clarence Ng*
Front-end system development: Motoi Shimizu (BACKSPACE Productions Inc.)
Speech analysis program development: Yuta Asai (Rhizomatiks)
Sound system/Sound design: Junji Nakaue*.
Lighting technology: Fumie Takahara*.
Assistant Director: Keina Konno*, Daichi Yamaoka*.
Technical support: Mitsuhito Ando*, Yano Stage Design, Fumihiro Nishimoto
Script translation: Kyle Yamada

The Critical Engineering Working Group
Unintended Emissions
Concept/Research/Development: Bengt Sjölén Sjolen, Danja Vasiliev, Julian Oliver (The Critical Engineering Working Group)
Sound engineering: Junji Nakaue*, Mitsuhito Ando*.
Lighting design: Fumie Takahara*.
Technical support: Yano Stage Design, Fumihiro Nishimoto
The Critical Engineering Manifesto Translation: Emma Tsuji

Yamaguchi Center for Arts and Media [YCAM] SAKOKU [Walled Garden] Project Archive Exhibition
Sound engineering: Junji Nakaue*, Mitsuhito Ando*.
Lighting design: Fumie Takahara*.
Video production: Yamaoka Daichi Yamaoka*.
Technical support: Yano Stage Design, Fumihiro Nishimoto
"Satoshi Kizawa's Zoortune TellingE!!!!! Animal Fortune Telling" text: Satoshi Kizawa
SAKOKU BBS development: Kakuya Shiraishi

Planning Common Credits
Spacial Spatial design: Sunaki (Toshikatsu Kiuchi, Taichi Sunayama, Gaishi Kudo) Clarence Ng*.
Stage: Clarence Ng*, Richi Owaki*.
Visual image technology: Richi Owaki*, Mitsuru Tokisato*, and
Structural system work: Daisuke Iwamitsu (wccworks)

Public Relations: Nanako Okuda*, Sayano Tani*, Yurie Hiruma*, Yurie Hiruma