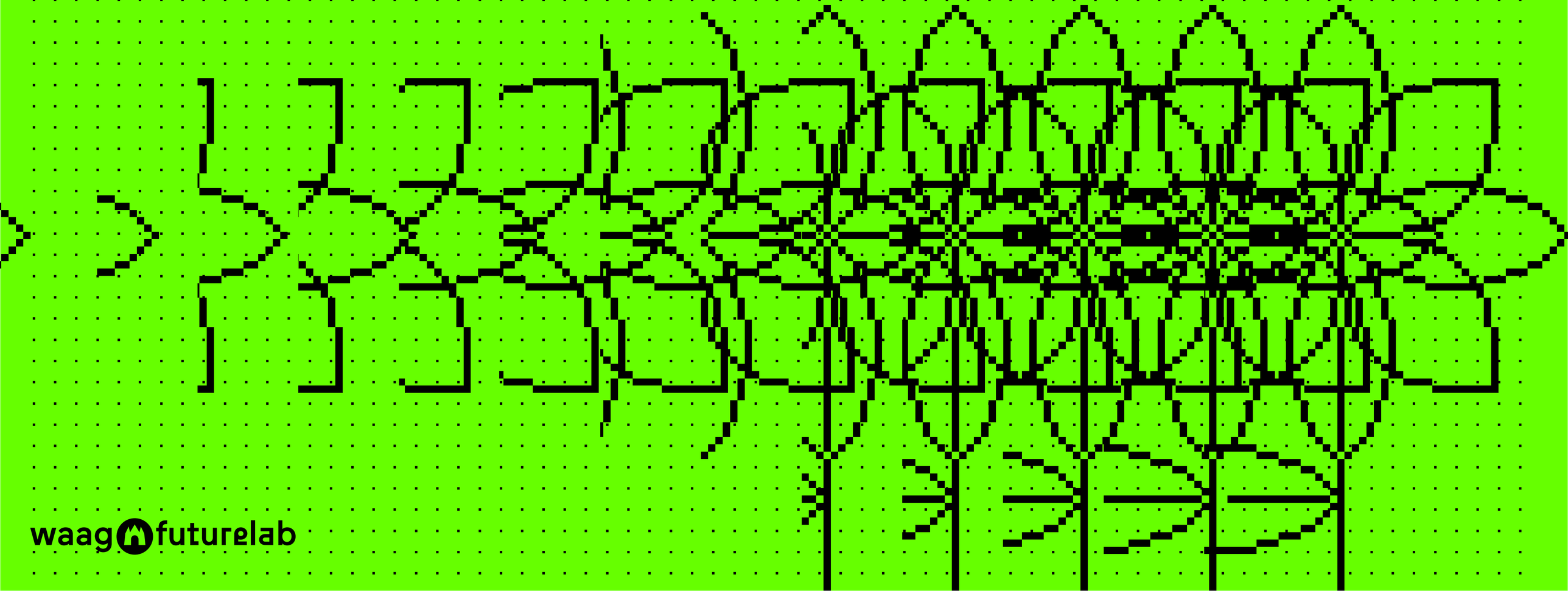
Designing Regenerative Technologies

The Demonstrator



waag futurelab

1. About Designing Regenerative technologies project and permacomputing
2. Role of creatives
3. What does it mean to be an artist engaging with topics of permacomputing and regenerativity?
4. Inspiring artists that relate to permacomputing

1. About Designing Regenerative technologies project and permacomputing

Demonstrator is a publication emerging from the ongoing Designing Regenerative Technologies run by Waag Futurelab. Part of the project's agenda is dedicated to exploring and amplifying regenerative practices among artists and creative technologists. Demonstrator shows ways in which computational creativity can meet ecological consciousness, highlighting alternative pathways for making and thinking with technology. This publication features artists, designers, and researchers who challenge dominant narratives of computational progress. These contributors engage with digital tools not for the sake of cultivating care, slowness, and life in tune with our actual needs rather than efficiency or scale.

A central thread in Demonstrator is the exploration and application of Permacomputing — a radically (slightly) more sustainable approach to computation. Drawing inspiration from permaculture, permacomputing invites us to think about computation as something that can be practiced through: conserving energy, embracing decay and reuse, valuing simplicity, and fostering long-term ecological strategies.

We assembled a diverse set of artits' profiles whose work illustrates one or more principles of permacomputing and regeneration. They also share their hopes, fears and experience of venturing into this field. More than a catalogue, Demonstrator is an invitation to imagine innovative and most of all sustainable modes of techno-

cultural production. It challenges extractive paradigms and instead offers practices rooted in mutualism, resilience, and creative resistance.

2. Role of creatives

There is no clear, singular path that would take us to a future where our design and use of technology does not cause harm. Until now much research and scientific work is devoted to achieving sustainability. But we must ask: what exactly are we trying to sustain? Many sustainability efforts fail to reckon with the resources already depleted and the damage already done.

To rethink harmful practices and redesign patterns that got us here, we need new imaginaries, provocative ideas, and practices that encourage us to experiment. That's why this publication turns to pioneering designers, makers, writers, hackers, and artists who approach technology on their own terms, with a deep awareness of its consequences on the environment.

3. What does it mean to be an artist engaging with topics of permacomputing and regenerativity?

In our conversations with the artists, some key themes have emerged. Deciding to take up principles of sustainability, regeneration, or permacomputing as a focus of their work often means that creatives find themselves invigorated by the new uncharted territories, but simultaneously face a lot of uncertainties and precarity that obstruct their practice.

So, what does it mean to step into this field?

To roleplay a scientist

Since we currently cannot achieve full regenerativity in our relationship to technology, this means we have to become comfortable with experimentation. There has been a lot of knowledge about sustainable practices developed in the last few years, but this knowledge is often gatekept at universities or in the hands of specialists – this does not have to be the case! Artists of the Demonstrator all have adopted an approach in which they dive into unfamiliar skills and genres with the simple belief that their curiosity will carry them forward in their experiments. This means starting small, taking time, and continuing to engage with a problem even if you haven't mastered the required skills (just) yet.

To take time

The current digital landscape does not allow much possibility to slow down and cultivate the computational culture that allows for deep engagement and relationality to ecology. Artists in this series of interviews voiced

the need for frameworks that would make it easier to allow for the flourishing of a culture where we are not merely passive adopters of technologies but thoughtful participants. Slowing down means resisting the notion of going fast and breaking things, but rather looking back and reassessing what can be fixed. Artists within permacomputing practice try to take more time and energy to immerse, test, and potentially apply approaches that would make this possible.

To find community

To step into a relatively nascent field of permacomputing and regeneration can also mean that, as an artist, you might initially find yourself overwhelmed with unknowns and unsure where to start. Each artist we talked to in this interview series stressed how important it was for them to find and engage with communities where knowledge and skills already exist.

Some found out about working with soil directly from farmers, some of them picked up soldering skills from hacker meetups, and others found their support communities online. These various communities helped bridge gaps in knowledge and offered encouragement at moments when more conventional, fast-paced modes of working felt easier or more widely accepted.

It’s through these communities of practice (such as those forming around permacomputing) that artists find the support they need to keep exploring. They don’t just

gain practical skills but they also find companionship in pushing back against extractive norms, and inspiration to imagine new ways of making, thinking, and being.

To be conflicted

Artists interviewed for this series have also been honest when describing their journey – due to institutional standards that impose extractivist practices on makers, it is often impossible to freely embrace regenerativity and permacomputing principles. Open calls and design briefs often come with demands that directly contradict the ethos of regeneration, forcing artists to navigate constant trade-offs between staying true to their values and meeting professional expectations.

This could mean institutions requiring high-resolution files, unsustainable materials, or proprietary software that reinforces dependency on Big Tech, with disregard for what that means for the planet.

Artists are also concerned that, without proper financial backing, their experimental work will not be appreciated enough for them to continue to support their own practice.

4. Inspiring artists that relate to permacomputing

Lukas Engelhardt

Sunjoo Lee

Lauma Wiksna

Rein van der Woord

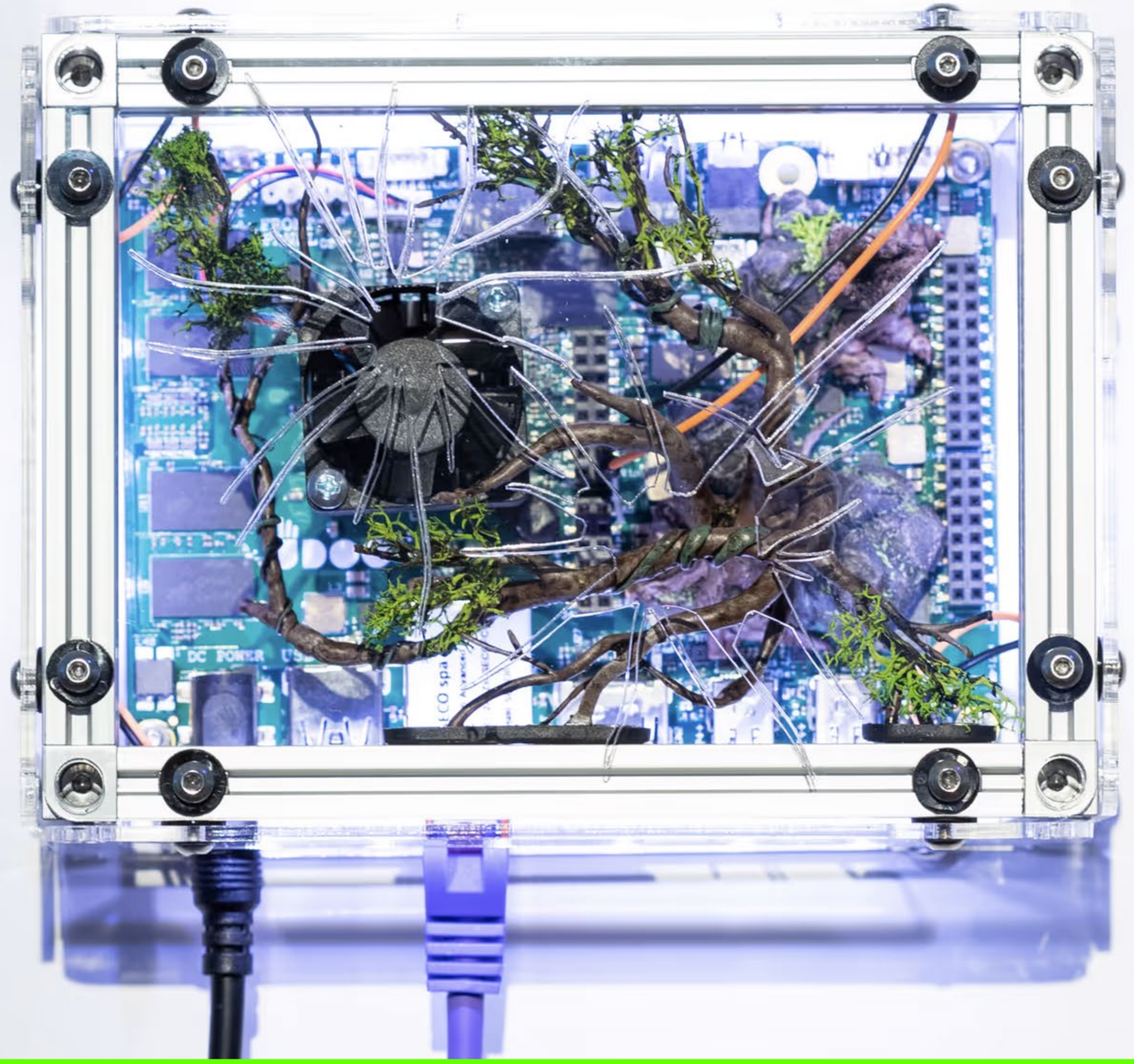
Anna Andreiew

Leo Scarin

Joost Rekveld

Brendan Howell

Lukas Engelhardt



Lukas Engelhardt is a graphic designer in Amsterdam. He’s interested in the aesthetics of autonomy, online as well as offline: the way it looks and feels, the way we talk about it, the groups and individuals who struggle for it – and the tactics, terms and conditions necessary to create and maintain it. He’s part of the Amsterdam-based publishing collective Spookstad, which emerged from the housing struggle and promotes direct emancipatory action. Together with Justus Gelberg he runs the graphic design studio Correspondence.

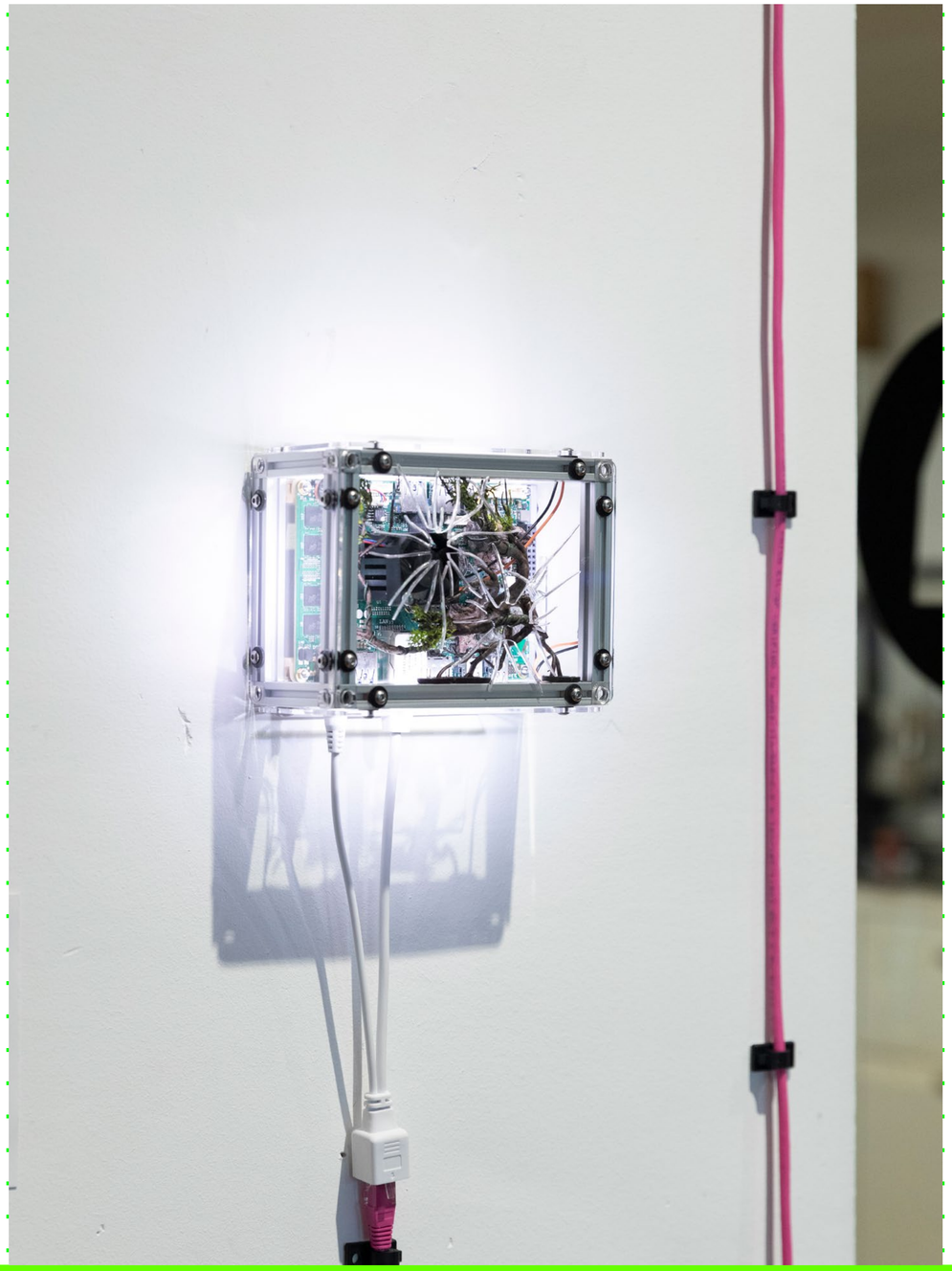
<”Adobe is the landlord and they charge you way too much rent for your shitty apartment that they don’t maintain ”>

Community servers

Your website doesn’t have to be hosted on some faraway server run by a big tech company like Amazon or Google. This small server is currently hosting information about Designing Regenerative Technology project and runs on 12 volt power supply. This server was originally built to host the Self-Hosting Manual teaching during the Digital Shadows exhibition at Waag.

This work’s vision is to make self-hosting accessible to the general public. Through that, Lukas’s work connects to principles of permacomputing, which emphasize reducing reliance on centralized, resource-intensive infrastructures that harm the environment and erode technological literacy.

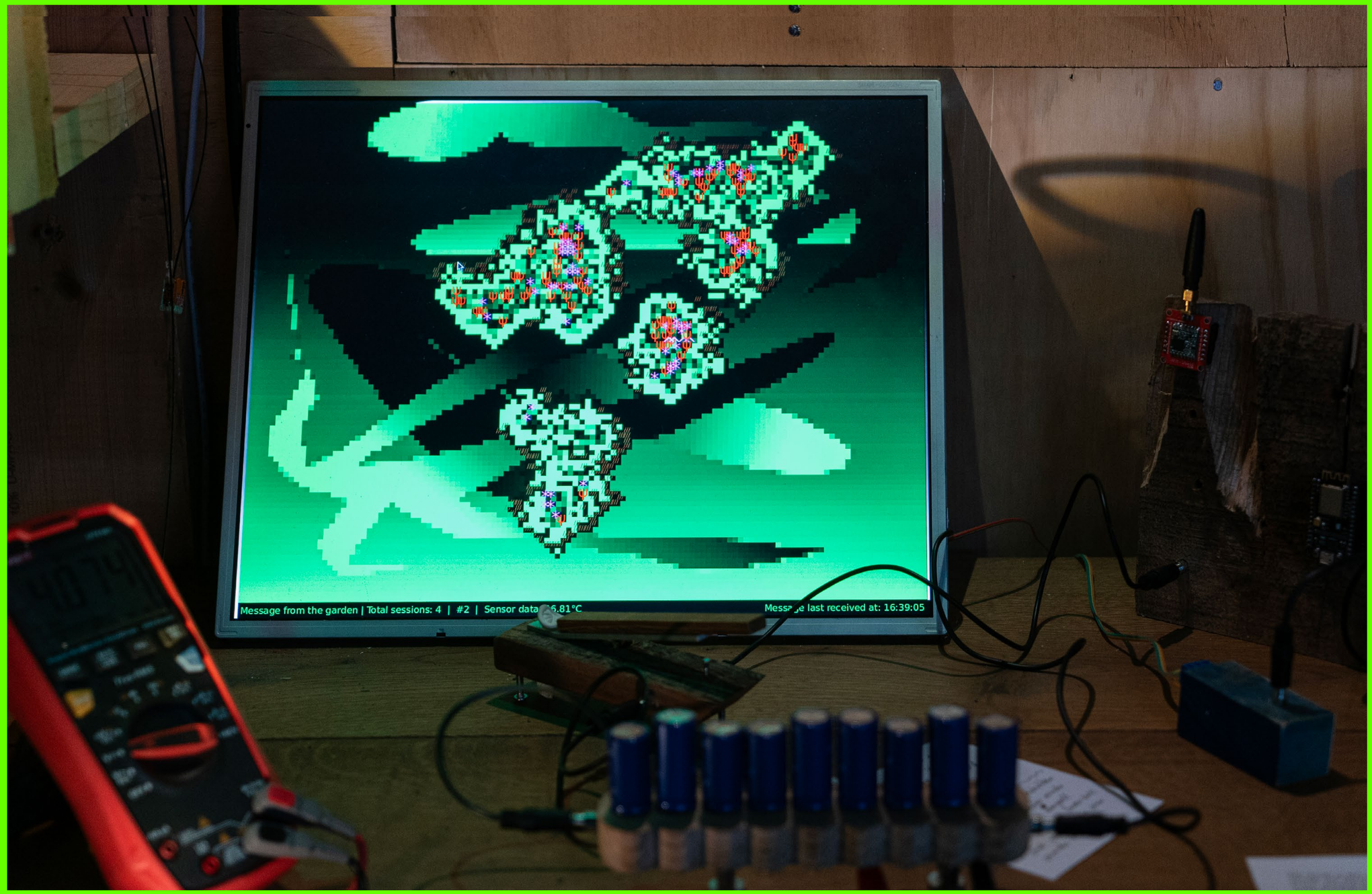
The case of the server is inspired by the linguistic connection between squatting (kraken in Dutch) and cracking, a slightly outdated term for hacking.



"In my design practice I use CryptPad for all of our notes and sharing our files, but then we still use Adobe to design our books. And it seems a little bit... it doesn't really fit together, like why would we use the software? At the same time we we also want to make books that are really beautiful. Anybody that has tried to kind of use alternative tools to make a book that is then on that level will tell you that it is quite a painful process. Doesn't mean that there's no other way."

"But not everything has to be difficult like having a non-Google email account is not necessarily more difficult than getting a Google email account. My email is hosted by somebody that my dad met skiing trip in the 90s. She has just a small server farm and her name is Andrea and she hosts my website and my email and I've always had my email there since I was a kid.
It's kind of nice, I have like, there's this person, which when something is wrong with my email we can fix it together. You can do these things, you host your website with a slightly more ethical company, or you can do it yourself."

Sujoo Lee


Message from the garden | Total sessions: 4 | #2 | Sensor data
6.81°C
Mess e last received at: 16:39:05

Sunjoo Lee is an interdisciplinary artist working in crossovers of art, technology, and ecology, based in the Netherlands and South Korea. Her fascination is in diverging the use of electronics and digital tools beyond human interest. Her works explore topics such as more-than-human philosophy, emergence, biomimicry, future forms of symbiosis, and permacomputing. Sunjoo often collaborates with biologists, ecologists, and engineers to develop artistic research and create multimedia installations that promote hybridity and partnership between the biosphere and the technosphere. She is a co-founder of the research collective Getbol Lab. Her current Electric Garden work is supported by Creative Coding Utrecht and Stimuleringsfonds.

<"... give yourself time and space to just observe.">

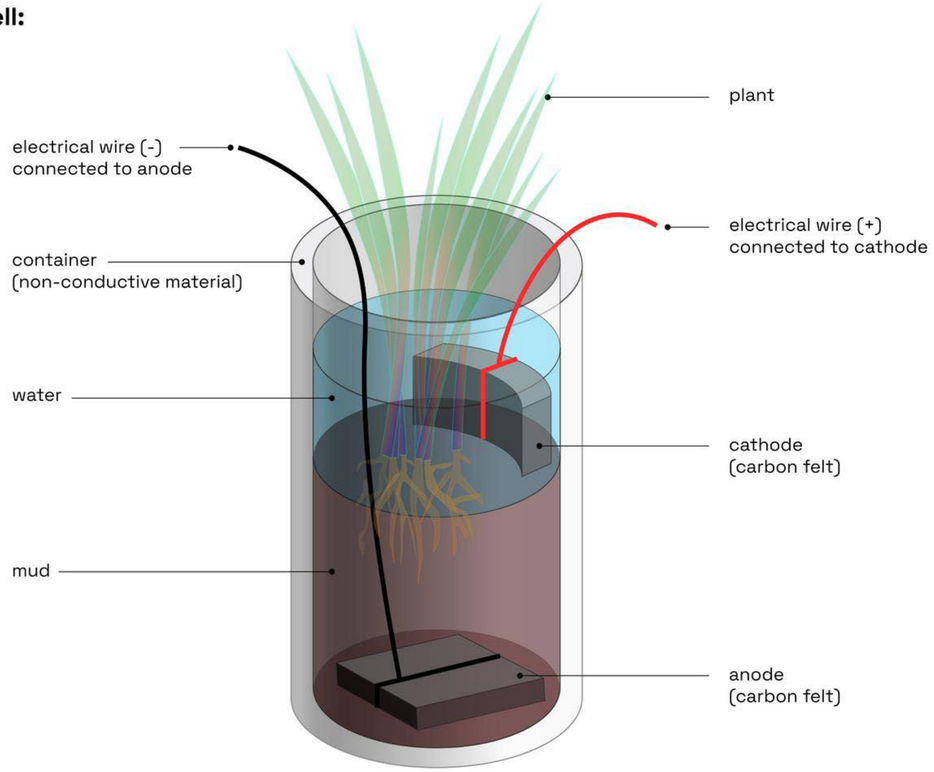
Electric Garden

The garden produces electricity by harnessing the metabolism of anaerobic bacteria living in wet soil, using a technology called Microbial Fuel Cells. Each container acts as a battery and is equipped with electrodes that harvest electrons emitted by the bacteria. The plants and insects in the garden feed the bacteria, allowing electricity generation to continue as long as the ecosystem thrives.

In this work, Sunjoo is also actively learning by exploring both the technical and ecological limits of this piece.

She asking question such as: How do different microcontrollers vary in energy consumption? What constitutes a power-efficient circuit? How do roots, rain patterns, and microbial life shape the energetic life of soil?

Inside each cell:



This process of learning through making, adapting, and attending to ecological needs reflects permacomputing — a practice of staying within limits, designing with care, and treating constraint as an environmental and creative asset. Through Electric Garden, Sunjoo exemplifies the possibility of establishing a regenerative relationship with the ecosystem, one in which electronics are directly dependent on our capacity to care for the environment's well-being.

"I have been collaborating with scientists to get this data and then use them in my works and I thought it was sometimes quite ironical that my work, talks about ecological thinking. But then my work always takes place in very unecological exhibition spaces."

"When you work with permacomputing you have to let go of this idea of of expecting certain results, and then just give yourself time and space to just observe."

Lane Wijnsma

Leanne Wijnsma’s practice yeast.computer is an Amsterdam based design studio creating experiences for the senses with smell, taste, soil and microbes. Their work is about communicating the importance of the invisible. Leanne taught at the Design Art Technology department of ArtEZ Arnhem and Data Visualisation at HU in Utrecht. They organise workshops and give talks on instinctive interfaces and prototyping future senses

<”What is there between the designer and the farmer?”>

Leanne Wijnsma

Server Tempeh

Server tempeh explores fermentation through residual data server heat. For our tempeh we work with Dutch heirloom beans, instead of the common soybean. In collaboration with Boonzaak, we are developing fermentation boxes that can be connected to a server's cooling system, re-routing the residual heat for the tempeh fermentation process. Tempeh requires a steady temperature of 30 degrees celsius during 30-40 hours for optimal fermentation, a temperature that is only artificially possible in The Netherlands. Rather than producing a carbon footprint akin to greenhouses, server tempeh uses the heat that is produced by heavy computing for fermentation.

The project engages with permacomputing principles by illustrating/ exposing computational by-products in this

case heat as resources to be cycled and reintegrated rather than as aste. It asks how we might design systems where computation and ecological processes are mutually supportive. In this way, Server Tempeh demonstrates that though we currently cannot design fully regenerative systems we can start rethinking what we can creatively do with “waste” we produce through computation.

"I became an artist, and I started to paint and design 15 years ago because I wanted to work with my hands and over time I find myself sitting more and more in front of the computer. I realized that physical work, work with soil food or soil is one way to get out of this habit but I can't fully abandon it.I figured maybe I can combine my practice with also...planting crops in a specific way, whether that's an art project and somewhat become a farmer? I am asking now: What is there between the designer and the farmer? That's what I'm trying to figure out."

"I think it's so important to learn how to struggle and that the struggle is part of the journey. It's such a skill to sit with a problem. As an artist I see reflecting upon the work or talking with others always brings me further and makes the work more interesting."

Rein van der Woerd

Rein van der Woerd (@goudreinette). Inspired by the psychedelic mindset, Rein searches for ‘hippie-technology’. In his work at Creative Coding Utrecht, he researches permacomputing: a philosophy applying ecological and long-term thinking to computers. Through hands-on workshops and DIY, Rein tries to recover the digital utopianism of Web 1.0 and the first wave of personal computers.

<”I often feel like I am cosplaying a scientist”>

Rein van der Woerd

Sloppy Surfers

The DS was the first 3D-capable handheld device by Nintendo, and therefore, many families' first 3D handheld, too. Its visuals have a rawness that comes from the limitations of being version 1.0. Rein has been working on adopting these old iconic devices to run new media pieces, showing that with a bit of imagination, old electronics can be given a new life.

In comparison to TikTok, reels, and mobile games of today, original Nintendo games seem almost relaxing. Sloppy Surfers game builds on the icon of the ultra-short attention span of this age – Subway Surfers. In its essence, it's a demake - a video game remake on an older or less capable platform or one that converts the game to an older graphical or gameplay style. It asks: Can you still enjoy media if they are not enclosed in a shiny new

device? Sloppy Surfers invites you to experience the hyper-intense, attention-grabbing format adopted for an older device. The Nintendo DS, now over 20 years old, has become a stable and unchanging system. Ironically, this makes it more preservable than many contemporary games like Subway Surfers, which rely on proprietary platforms and must constantly evolve to keep up with new operating systems and devices.

Rein practices permacomputing by researching practical ways to playfully engage with devices that might otherwise end up in a landfill. Permacomputing encourages us to rediscover curiosity about existent devices and their capabilities and to steer away from the idea that “new means always better”.

"I have less fear about experimenting because I often feel like I am cosplaying a scientist. It's this mix of pretending to role-playing vs. actually being it and it takes me into interesting places."

Anna Andrejew

Anna Andrejew is an artist-researcher with a background in ethnography and permaculture. Her artistic research explores the physical, emotional, and material dimensions of spaces, giving voice to the in-between, often undefined areas that resist fixed or singular outcomes.

<"As an artist I don't fear AI it at all because for me it's about this process...">

Drawing on her exile heritage and material research, she traces the impacts of extraction and capitalist disruption, opening pathways for reimagining more-than-human, relational temporalities. Her interdisciplinary practice spans mapping, (cameraless) photography, performance, workshops, and writing.

Anna Andrejew

Countermapping the Landscape of Data

In this project, the silent infrastructure of digital life is made visible, and the land beneath our technologies is re-read through a speculative, ecological lens. Set in the reclaimed polder of Middenmeer — where greenhouses and data centers now dominate the terrain — this participatory project challenged dominant narratives of progress, ownership, and functionality by inviting participants to engage in a collaborative re-mapping of the place.

The Netherlands is a landscape engineered for productivity. Land was claimed from water, ecosystems overwritten, and once-visible forms of labor — like growing food in soil — relocated to sealed, controlled environments. Data centers, much like greenhouses, now stand as monuments to accelerationism: sterile, enclosed

spaces that consume land, energy, water, and attention, while distancing us from their ecological footprint. This exercise enagaged with principles of permacomputing by asking participants to look what lies beneth the infrastructures that ask to be invisible. What lives here, beyond the servers? What was lost when the land was remade? Who remains unseen in these landscapes of infrastructure? One of the permacomputing principles encourages us to 'expose the seams' of technology so that we, as society can regain understanding and agency in decision made about the expansion of digital infrastructure hapening all around us.

This work was developed in collaboration with Ola Bonati, design & concept developer

"I studied photography so I saw there's a big scare there that we're all going to we're gonna like be cancelled, obsolete because of AI. However, don't fear it at all because for me it's about this process. So the fact that with AI you just jump to end result makes me lose interest. If we only ever focus on end result things start to be scary."

Leo Scarin

Leo Scarin is a Creative Technologist based in The Hague, NL, where he graduated at the Royal Academy of Arts. Researching the meeting points of computational and human technologies, Leo explores social, political, and increasingly environmental impacts of digital culture, by means of interactive and immersive installations

Among others, Leo Scarin's work has been featured at TodaysArt, FIBER, Rewire, iii, V2_Lab for Unstable Media, STRP, Eye Filmmuseum, and The Grey Space in the Middle.

<"A lot of people have done this before me.
I just need to reach out to those people">

A Dangerous Stochastic Parrot

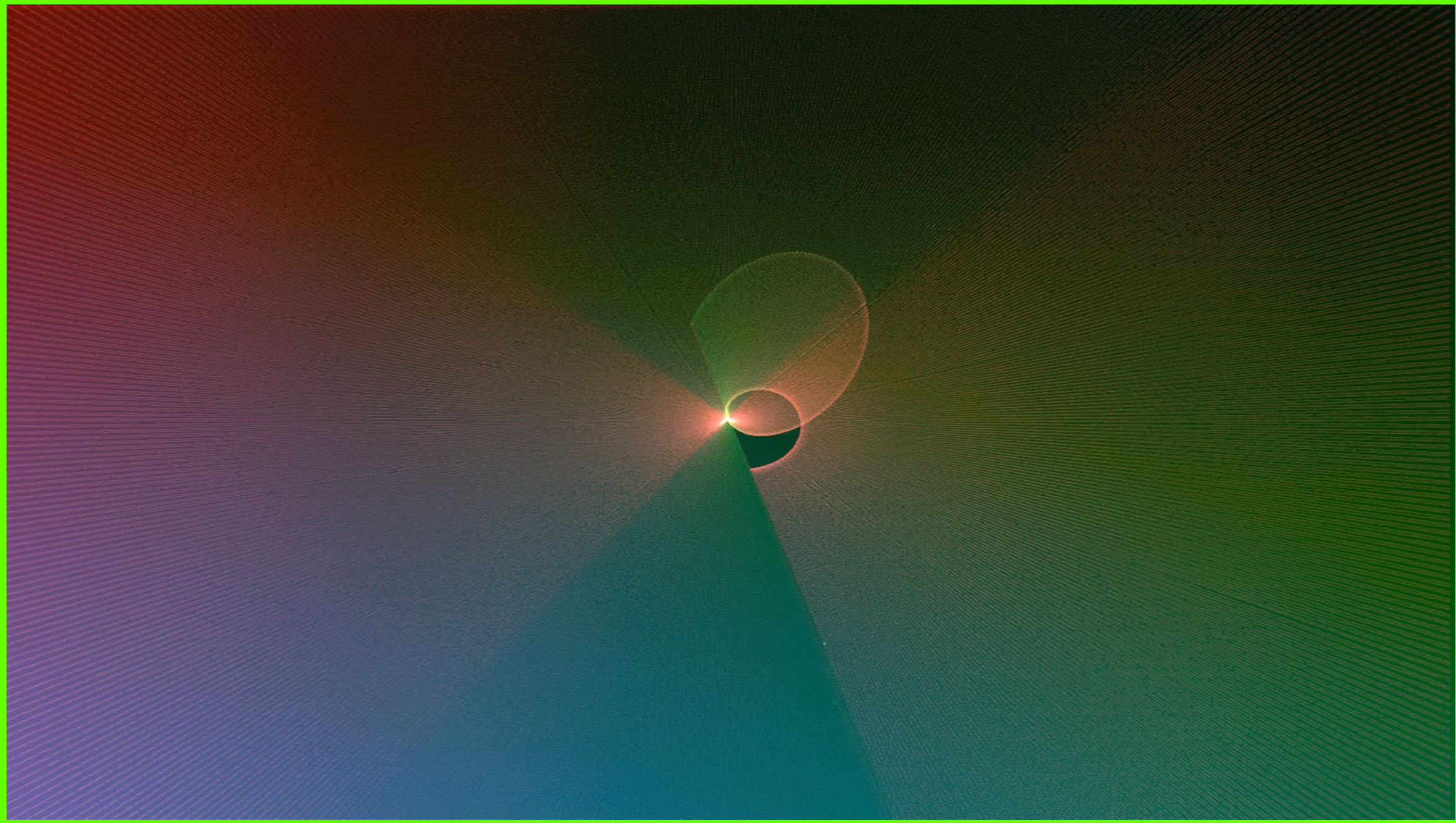
Gossip plays a social role in steering group behaviour, acting as a network of confidential knowledge of people and institutions. But, gossip also amplifies biases — not too dissimilarly from LLMs that often extract and repeat inaccurate data.

Inspired by Bender and Gebru's paper "On the Dangers of Stochastic Parrots," Leo recorded and transcribed a year's worth of personal gossip. The text corpus was then used to fine-tune a small language model which echoes the gossip in renewed forms and content. The process of making this piece is personal, careful, autonomous, and uses amounts of data and tools that are just sufficient to perform the desired computing task. This work engages with permacomputing principles by countering the narrative of tech having to be big, high, and performative

to succeed. It shows that computation can be done at scale and working within certain self imposed limits can also result in creative outputs.

"It's the understanding what I need in my relationship with a computer, and then creating those tools for myself, or finding other people that have made those tools. A lot of people have done this before me. I just need to reach out to those people, and what's the entry point to find that specific tool that someone else has made and make it mine, or join a community effort."

Jost Rekveld



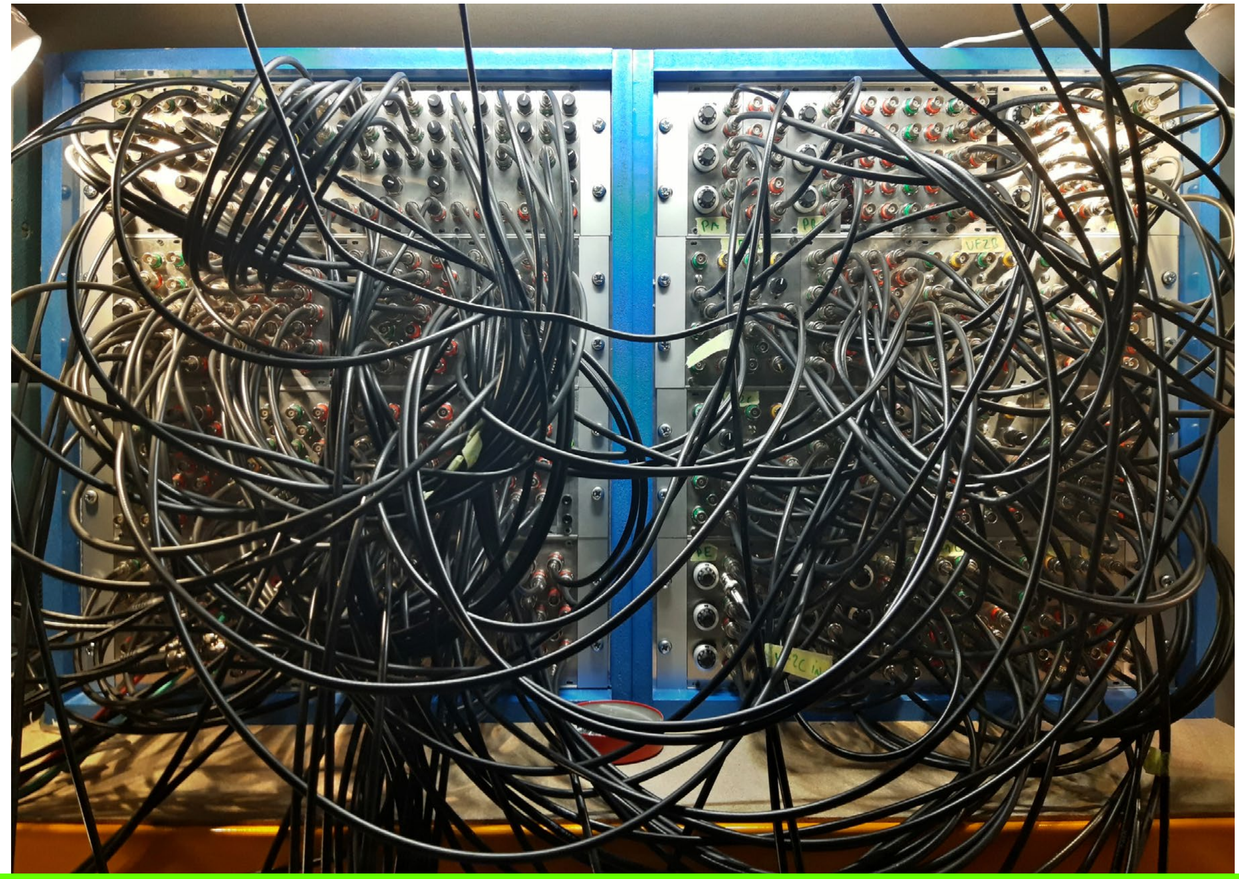
Joost Rekveld is an artist motivated by the question of what we can learn from a dialogue with machines. In his work, he explores the sensory consequences of systems of his own design, often inspired by forgotten corners in the history of science and technology. These systems combine temporary dogma's in the form of procedures or code, with more open-ended elements such as material processes or networks of interactions that are too complex to predict. His films, installations and performances are composed documentaries of the worlds opened by such systems. In their sensuality they are an attempt to reach an intimate and embodied understanding of our technological world. His abstract films have been shown world-wide in a wide range of festivals and venues for experimental film, animation or other kinds of moving image.

<"...there are multiple ways of doing things- sometimes we forget the things could be different">

Joost Rekveld

Mechanisms Common to Disparate Phenomena; #59

This piece is an abstract animated science-fiction film that takes the experiences shared by humans and electronic circuits as its starting point. Our computing technology emerged during the Cold War as a byproduct of the development of atomic weapons and their associated planetary surveillance systems. In 1961, at what was perhaps the coldest point of this period, Edward Lorenz and Yoshisuke Ueda independently discovered deterministic chaos in their computers. In film #59, humans, aliens and electronic devices vacillate between the poles of a human fever dream of planetary control on the one hand, and lively machinic chaos on the other. Narrative elements derived from Cold War era science fiction films set the tone for the film, while references to radar and television scanning result in images that evoke very early computer graphics. These progressively unfold



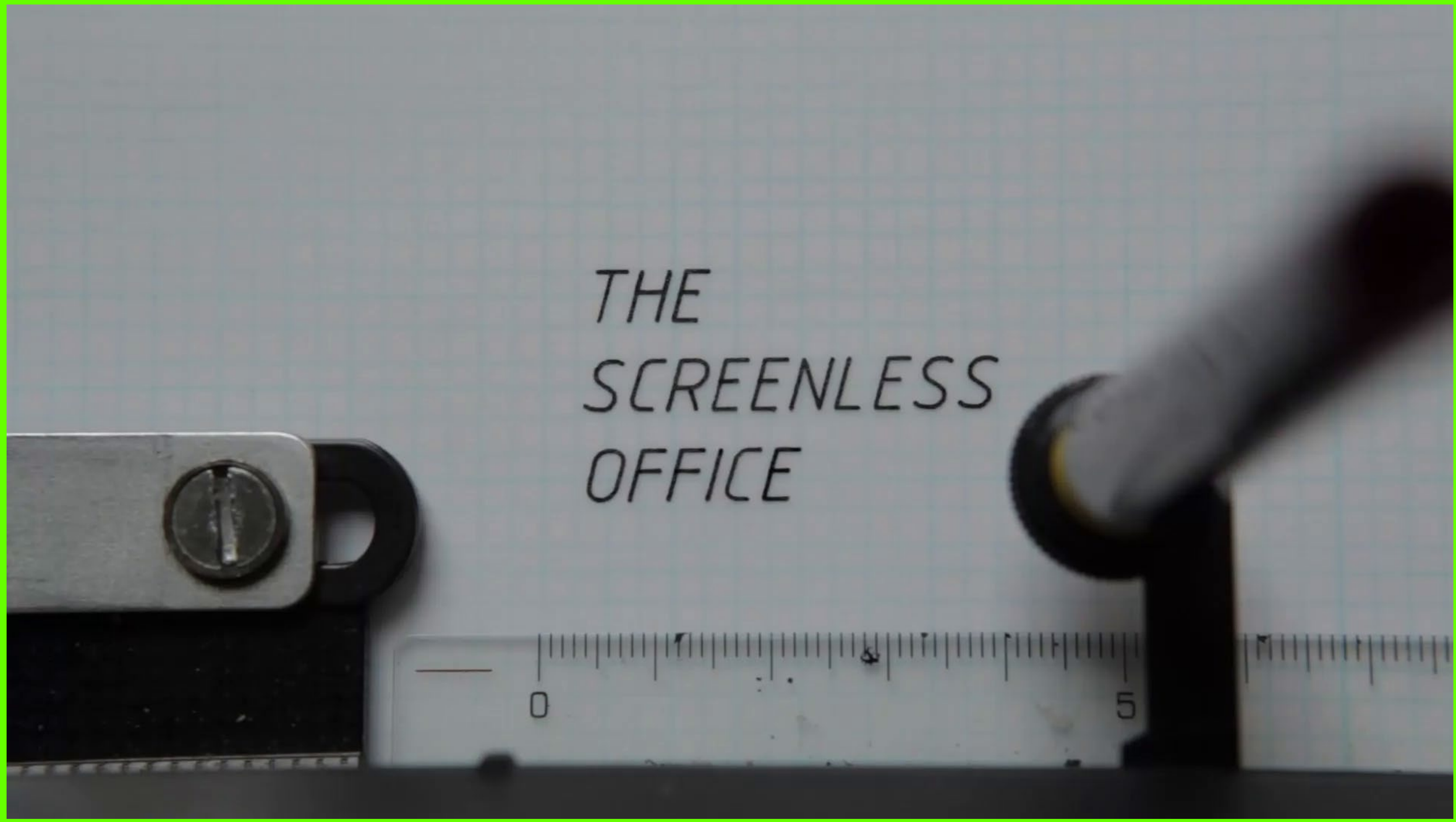
into organic calligraphies, in which the negative space between the patterns becomes one of the protagonists.

All images in the film were produced as electronic signals, for a large part generated using period equipment: an analogue computer from 1963, early sonar and radar oscillators, and imaging devices taken from military flight simulators. Historical analogue computing and simulation techniques were re-enacted, old machines were sought out and cared for, and new devices were developed based on old principles. Analogue computing was pushed into a new direction in an attempt to liberate these computing technologies from their problematic origins. In line with permacomputing principles Joost is rediscovering already available techniques and tools exposing not only the problematic past of computation but also proving that new narratives can be built with the use of old elctronics. His work resists the extractivist logic of modern computing that demands constant upgrading and energy-intensive performance. Instead, it suggests that radical imagination can emerge from working with constraints, with existing materials, and within planetary limits.

"My experimentation with tools began simply because of resource constrains and interest in investigating technological history. Later on It became a habit to ask about alternative routes a medium could take, there are multiple ways of doing things sometimes we forget that things could be different."

"At some point I got really sick of sitting behind a computer and came back to the idea of building my own tools. That's when I discovered the idea of analogue computing to generate images. I also learned about the idea of computing within limits which is promoted by permacomputing..."

Brendan Howell



Brendan Howell is an artist and a reluctant engineer. He is the creator of numerous interactive artworks and inventions. Additionally, he has spent a lot of time teaching digital practices in applied and fine arts at various European higher education institutions. He lives in Berlin, Germany but can often be found walking in wooded areas of Northern Europe or enjoying pastoral life in Hacksneck, Virginia, USA with his extended family.

<"We don't need more code. We need quality.">

Brendan Howell

The Screenless Office

The Screenless Office is a system for working with media and networks without using a pixel-based display. It is an artistic operating system. The office presents a radically alternative form of everyday human interaction with media. It is constructed using free/libre/open hard- and software components, especially for print, databases, web-scraping and tangible interaction. Currently, it exists as a working prototype with software “bureaus” which allow a user to read and navigate news, web sites and social media entirely with the use of various printers for output and a barcode scanner for input. While our existing software allows for interesting new ways of consuming media, we are currently working to expand the system to make it capable of publishing content and thereby, enabling a provocative possibility for active participation in contemporary social life.

YESTERDAY'S TOMORROWS

SEMPER CONTEMPORARIUS — THURSDAY FEBRUARY 8, 2024

WORLD'S FIRST YEAR-LONG BREACH OF KEY 1.5C WARMING LIMIT
BBC News - World
The last 12 months were the hottest on record, temporarily sending the world past a deeply symbolic mark.

GAZA CEASEFIRE: ISRAEL'S PM BENJAMIN NETANYAHU REJECTS HAMAS'S PROPOSED TERMS
BBC News - World
Israel's PM insists he will accept only "total victory", and calls Hamas's truce terms "delusional".

GUARDING THE MIDDLE EAST'S MOST DANGEROUS BORDER
BBC News - World
Clashes between Israel and Hezbollah are intensifying as the risk of a wider regional conflict grows.

PAKISTAN ELECTION: INTERNET ACCESS CUT OFF AS CONTROVERSIAL POLLS BEGIN
BBC News - World
Millions are voting in a new government amid soaring inflation, rising violence and rigging claims.

US DRONE STRIKE KILLS IRAN-BACKED MILITIA LEADER IN BAGHDAD
BBC News - World
The Pentagon says the Kataib Hezbollah leader was responsible for directing attacks on American forces.

US SUPREME COURT TO CONSIDER IF TRUMP SHOULD BE BANNED FROM RUNNING FOR PRESIDENT
BBC News - World
Justices will weigh if Colorado can strike Mr Trump off its ballot after finding he engaged in insurrection.

ECUADOR BECOMES SECOND LATIN AMERICAN STATE TO DECRIMINALISE EUTHANASIA
BBC News - World
Ecuador's constitutional court votes seven to two in favour of allowing doctors to help a patient die.

COULD THE HOUTHIS SABOTAGE UNDERSEA CABLES?
BBC News - World
Revenge takes many forms, but threats of a deep sea attack are easier said than done, writes Frank Gardner.

FRENCH ACTRESS JUDITH GODRÈCHE ACCUSES DIRECTOR BENOÎT JACQUOT OF HISTORICAL RAPE
BBC News - World
Benoît Jacquot denies the accusations made by Judith Godrèche as prosecutors open an investigation.

SOUTH KOREA: 'DIOR BAG SCANDAL' A POLITICAL MANOEUVRE, PRESIDENT SAYS
BBC News - World
Under fire, Yoon Suk Yeol says it's "regrettable" that his wife accepted luxury bag as a gift.

ANALYSE ZUM SPIEL IN MAINZ: UNION BERLIN IST MIT WENIG ZUFRIEDEN
rbb24 | rbb24
Union ist nach einem Punkt im Auswärtsspiel in Mainz zufrieden. Dabei wäre in dem Abstiegsduell mehr drin gewesen. Auf einem verregneten und tiefen Platz fehlte der Mannschaft der Plan B. Von Till Oppermann

PERSONALNOT IN BERLIN: TERMINPROBLEME IM STANDESAMT - SO SIEHT ES IN IHREM BEZIRK AUS
rbb24 | rbb24
Seit fast anderthalb Jahren fordern Berliner Standesämter dutzende neue Stellen, bewilligt wurden sie vom Senat bisher nicht. Vielerorts sind etwa Eheschließungen eingeschränkt. Aber nicht alle Bezirke sind gleichermaßen betroffen. Ein Überblick. Von Sabine Müller

EX-RBB-DIREKTOREN KASSIERTEN DOPPELT UND DREIFACH
rbb24 | rbb24
Zwei von der damaligen Intendantin Patricia Schlesinger ausgetauschte rbb-Direktoren kassierten nach ihrer Amtszeit doppelt und dreifach. Jetzt hat der Sender in einem Fall die monatlichen Ruhegeldzahlungen eingestellt. Von Gabi Probst

1:1 IM NACHHOLSPIEL: UNION BERLIN HOLT EINEN PUNKT IM KELLERDUELL IN MAINZ
rbb24 | rbb24
Union Berlin hat im Nachholspiel des 18. Spieltags auswärts bei Mainz 05 einen Punkt geholt. Beim verregneten 1:1-Unentschieden erzielte Robin Gosens das erste Auswärtstor der Köpenicker in der Liga seit vier Monaten.

By calling this creation an "Artistic Operating System", we assert that it should be unique and personal, even peculiar in its way of representing and interfacing with the rest of the media world. In this sense, it is freed from the implicit social requirement that new technological projects conform to standard principles of progress, universality and efficiency. This project aligns with permacomputing's core principles of care, reuse, and technological humility. By eliminating pixel-based displays in favour of tactile, print-based and audio interfaces, Brendan radically reduces dependence on extractive digital infrastructures. Instead, the project redirects attention toward slower, less electricity-intensive media objects—printers, barcode scanners, and open-source microcontrollers—inviting users to engage with computation at a more deliberate, embodied pace.

"Our problem isn't that our code has too many bugs or that we need to make our code - the problem is there is pressure to have more code faster. It's about numbers. It's about volume. But the problem is, I think, most software doesn't need more lines. We don't need more code. We need quality."

"I've in the last few years, I've gotten really into foraging for edible plants. I think in some ways my approach to technology is also about kind of foraging.I take what I do in my life and what I can run into, and then you source from these parts, put it together and make it happen."

Waag Futurelab contributes to the research, design and development of a sustainable, just society. Waag works in a trans-disciplinary team of designers, artists and scientists, utilising public research methods in the realms of technology and society. This is how Waag enables as many people as possible to design an open, fair and inclusive future.
To heal the harm that lead to the current climate crisis, we need to repair our relationship with the earth. Waag's Urban Ecology Lab is committed to develop ecological skills with artists, citizens, designers, governments and researchers. These skills also bring a new view on technology and help to design and use technology within planetary boundaries; regenerative technology.

waag.org

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Colophon

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