bit.craft

Project report

Bergen Senter for Elektronisk kunst ism Bergen Offentlige Bibliotek

"Digicraft" took place from january - december 2017, as a collaborative project by BEK, Bergen Centre for electronic Art and BOB, Biblioteket i Bergen.
The project existed from a range of workshops and presentations by 4 diffrent artists.

"Digicraft" had focus on workshops that combined new digital technologies and developments, with "hands on" practices and workshops, creating a translation from the digital to the analogue, by using tactile output.

The projects focus was to expand existing platforms for sharing creating content, tools and language on how to reclaim technology around them that determine their identities.

This collaboration between BEK and BOB aimed to bring together skills from well known makers, artists and tinkerers, and aim to offer youth a fun and engaging way to develop independent skills, thoughts and experiences surrounding technology.

The workshops and presentations were conducted by professional artists.
The user group consisted from various users, mixing various agegroups, backgrounds and a mix of professionals and amateurs.
Furthermore, more than half of the participants were in the age bracket 16-22 years.

The project got funded by Norsk Kulturråd, Hordaland Fylke & Bergen Kommune, and was a collaboration between Bergen Offentlige Bibliotek and Bergen Senter for Elektronisk Kunst.

The first workshop series collaboration between BEK & Biblioteket Bergen

DIY Musical Objects (Workshops & Presentation, March 2017)

The DIY Musical Instruments Workshop was the second workshop that took place at BOB. In this workshop participants build an instrument that they could customise themselves: functioning as synth voice, as a lofi sampleplayer or 8 bit drummachine. For this 2 day workshop participants learned how to build, solder and customise the instrument, from both the inside and outside. Participants get to keep the instrument they build. The workshop was great for beginners who want to learn soldering create their own instrument but also for people who are a little bit more experienced, as well as musicians that want to add extra sounds to their existing setup. Participants got to keep the devices they made after the workshop.
For this workshop we had 88 participants, with more than half in the 16-22 age bracket.
The workshop was held by Jan Willem Hagenbeek (NL) & Steven Pickles (AU)
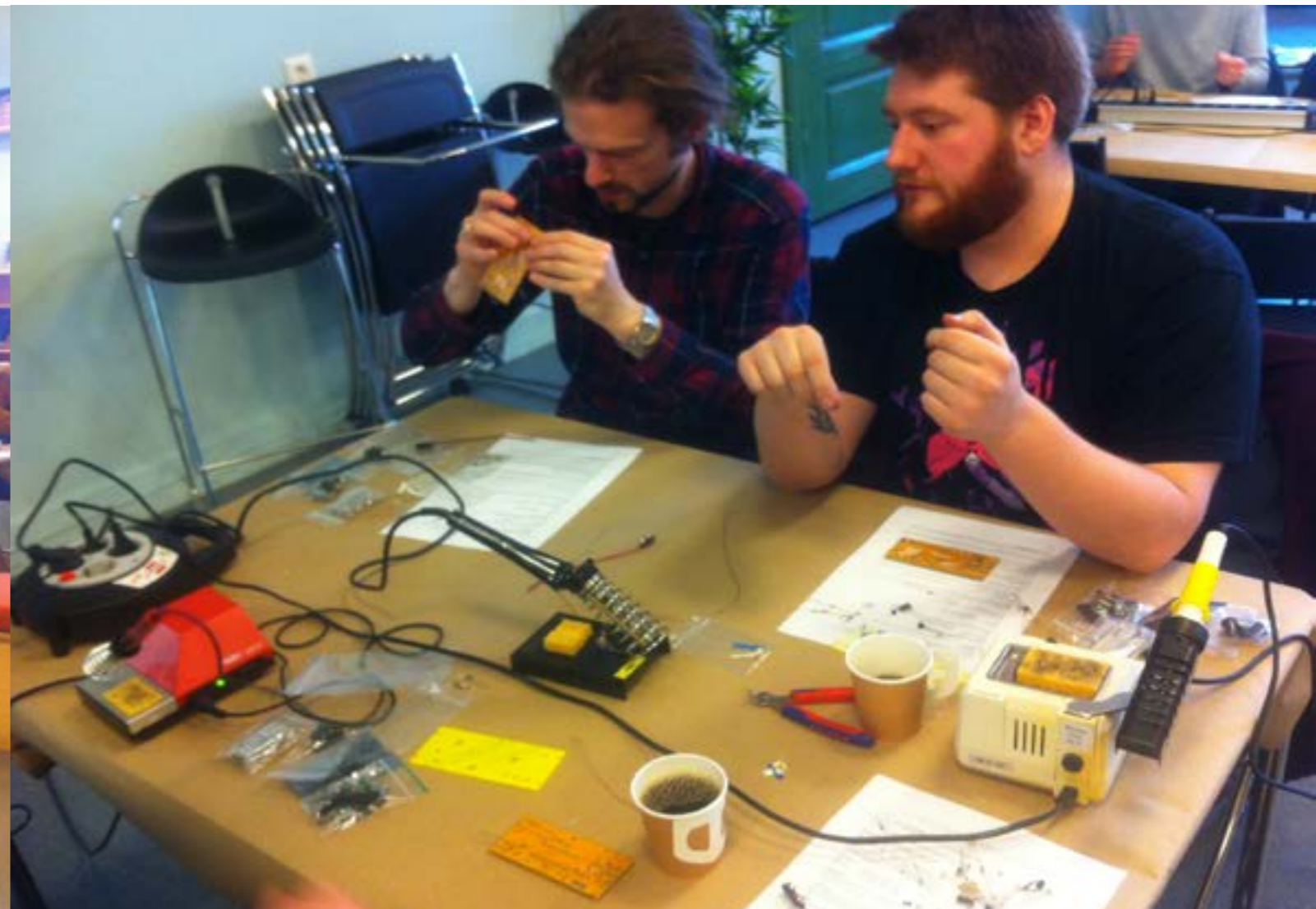
Jan Willem Hagenbeek (NL)
Jan willem Hagenbeek is an electronic musician that has been making his own instruments and DIY music equipment, and started out by modifying existing instruments. He also creates his own modular instruments under the monicker "Ginko Synthese", based in the Hague, the Netherlands and is interested in the 'what, how and why' behind analogs instruments and electronics, utilizing trial-and-error based techniques.

Steven Pickles (AU)
Steven Pickles, better known as "Pix" is a founding member of Hackerspace Adelaide, Australia where DIY knowledge & resources are freely shared and exchanged. He also works for ANAT: the Australian Network for Art & Technology, and has an enduring facination with all things geeky.
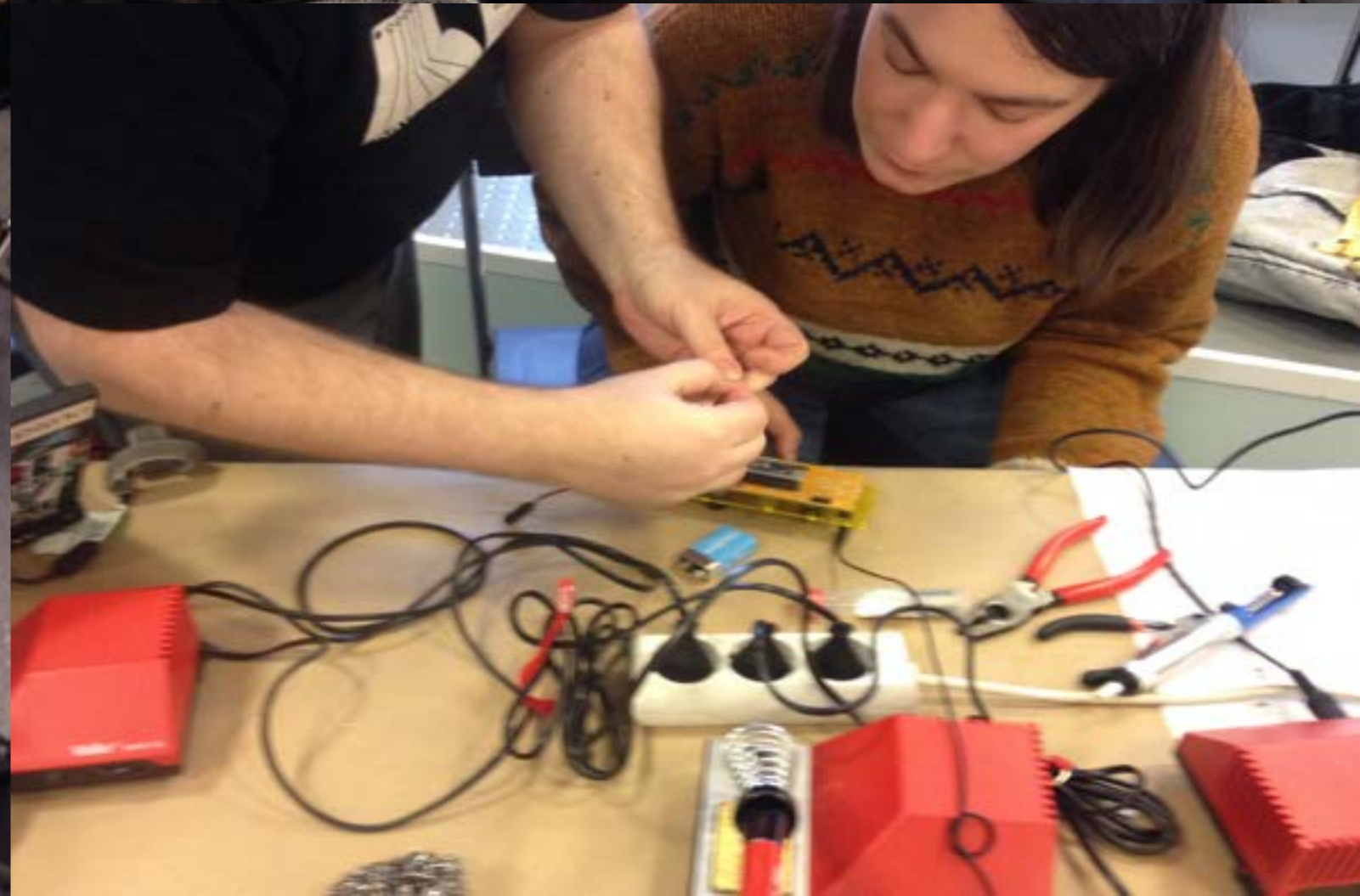
Workshop participants, Bergen Biblioteket, DIY Musical Objects Workshop

Workshop participants, Bergen Biblioteket, DIY Musical Objects Workshop

Jan Willem Hagenbeek (top) and Steven Pickles (right) were the workshop conducters.

Below they demonstrate how a standalone module made during the workshop can function as part of a modular setup.
This way the possibilities for the instrument are extended as they can be synchronised to other musical devices.

The popularity of DIY synthesizers has long since surpassed the interests of a handful of individuals. Shifting from the musical-engineering underground, their presence is growing - we are witnessing a global phenomena of the DIY movement driven by heterogeneous artists, who are discovering new ways of musical expression with DIY devices. The authenticity of sound and unique interfaces offer endless possibilities of modularity, connectivity, upgrades and distinctive hacks. Quite often during live performances.

Digital Embroidery (Workshop & Presentation, May 2017)

This workshop had the the keyboard as its starting point. The keyboard is our entry point to the computer; this is where our ideas and thoughts get transformed flow from our bodies sand get transformed into binary input and reactions on the screen. It is also the starting point for most human–computer interaction – the intersection of computer science and behavioral sciences. The workshop organized by the Spanish artist Raquel Meyers (raquelmeyers.com) working in an intersection of text, computers and graphics. Participants are female artists and creatives who have worked with technology in their practice. During the workshop brushed Commodore 64, teletext , laptops, typewriters and used to create graphics and animations.
In this workshop we created analog translations from a digital root. Mainly to the field of Embroidery, that as a craft has a long history. By using the Commodore 64 gameconsole as a canvas, new embroidery patterns can be created that call for innovative use of form, colour, language,punctuation marks, special symbols, and graphics.

For this workshop we wanted to put focus on creating embroidery patters using the classic commodore 64 gameconsole, using custommade software made by Raquel Meyers & the C64 group Hack & Trade. Blending the tradition of scandinavion demoscene artistery, with another scandinavian tradition: classic embroidery.

Illustrative pattern design made on the Commodore 64, emboided on a Norwegian Bunad

KYBDslöjd: Creating images with text & symbols
This technique is referred to by visual artist Raquel meyers, who conducted the workshop, as KYBDslöjd KYBDslöjd stands for keyboard dexterity. To be more precise, for drawing and crafting by typing, using just a character set. KYBD is the acronym for keyboard, where a drawing or an animation is typed in by using different keystrokes for each mark on the screen or the paper. The word Sloyd (Swedish, Slöjd) is derived from the Icelandic and means dexterity or skill. In old Swedish, we find the adjective slög (artistic or skillful).
In KYBDslöjd, the screen is the canvas, a rectilinear grid on which one keystroke at a time build a character-by-character imaginary.

Raquel Meyers(SP) is a spanisch artist that specialises in using classic gameconsoles to create animations, as well as crafts, performs her solo work at festivals and museums worldwide.

Raquel Meyers' Vivid Artworks Are Made On A Hacked Commodore 64

The very old, very dead gaming computer is very much alive in the artworks of online fan communities.

SHARE [f] TWEET [y]

Johnny Magdaleno
May 15 2014, 7:00pm

Commodore 64 computer. Released 1982. via

All images courtesy Raquel Meyers, except where noted otherwise.

Did you know there's an international community of artists, gamers, hackers and fans devoted to the Commodore 64 gaming computer? Or that this 80s-era PC is the subject of festivals, online museums, and entire artist repertoires?

Neither did we, until we lost ourselves while scouring the internet, and ended up in the heart of a bustling fan community. Over at CSDB.dk, for example, users are uploading new Commodore 64-crafted videos and tracking global C64 events on the daily.

*Raquels work and software featured in Vice´s Creators Magazine, 2017*

Example of a digitally created work in "KYBDslöjd" for Teletext, translated to an embroided piece.

Scandinavian Demoscene

The DemoScene was born in the computer underground in the mid 70´s all troughout Scandinavia (Norway, Sweden, Denmark, Finland) and Germany. Demo´s are the product of extreme programming and selfexpression. Forming an important piece of cultural history in Scandinavia and Beyond.
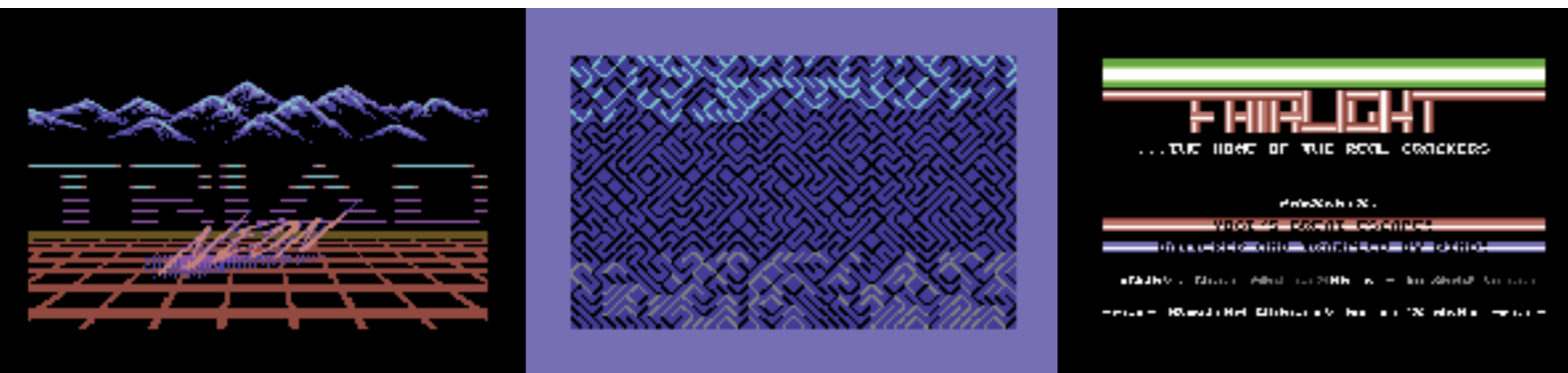
Bunad History

Bunad is a Norwegian umbrella term encompassing, in its broadest sense, a range of both traditional rural clothes (mostly dating to the 19th and 18th centuries) as well as modern 20th-century folk costumes.
In its narrow sense the word bunad refers only to clothes designed in the early 20th century that are loosely based on traditional costumes.
The bunad movement has its root in 19th-century national romanticism, which included an interest for traditional folk costumes not only in Norway, but also in neighbouring countries such as Denmark and notably Germany. However, in Norway national romanticist ideas had a more lasting impact, as seen in the use of folk inspired costumes.


Digital Embroidery aims to blend these two scandivian traditions, and reinvent both of these crafts (coding with computers and embroidery) through the workshop


With a generational shift for computers that were made over 25 years ago, we are seeing the current 'Internet generation' take a liking to computers that xisted from the 'golden age' of computing when things were simpler and more tangible. Raquel Meyers examines the use of antique video game hardware used to make modern visual art , mainly Raquel's use of the Commodore 64 (C64) that she has reinvented as an animation and live performance tool, as well as a design environment for output to patterned streetart, embroidery and teletext imagery, created with a non-mistakable estheatic of raw shapes and colours from the Commodore64.

Workshop Images Digital Embroidery Workshop

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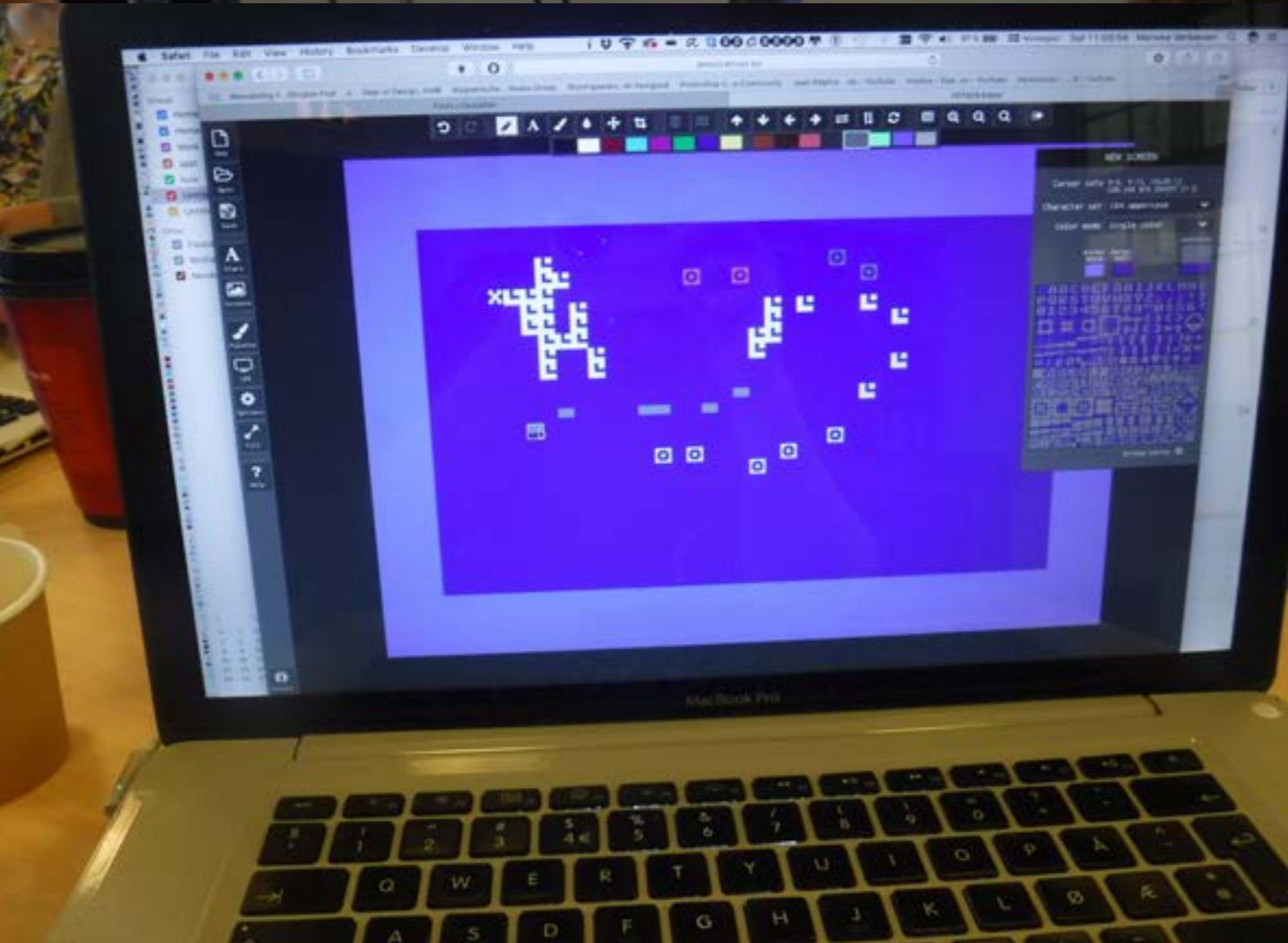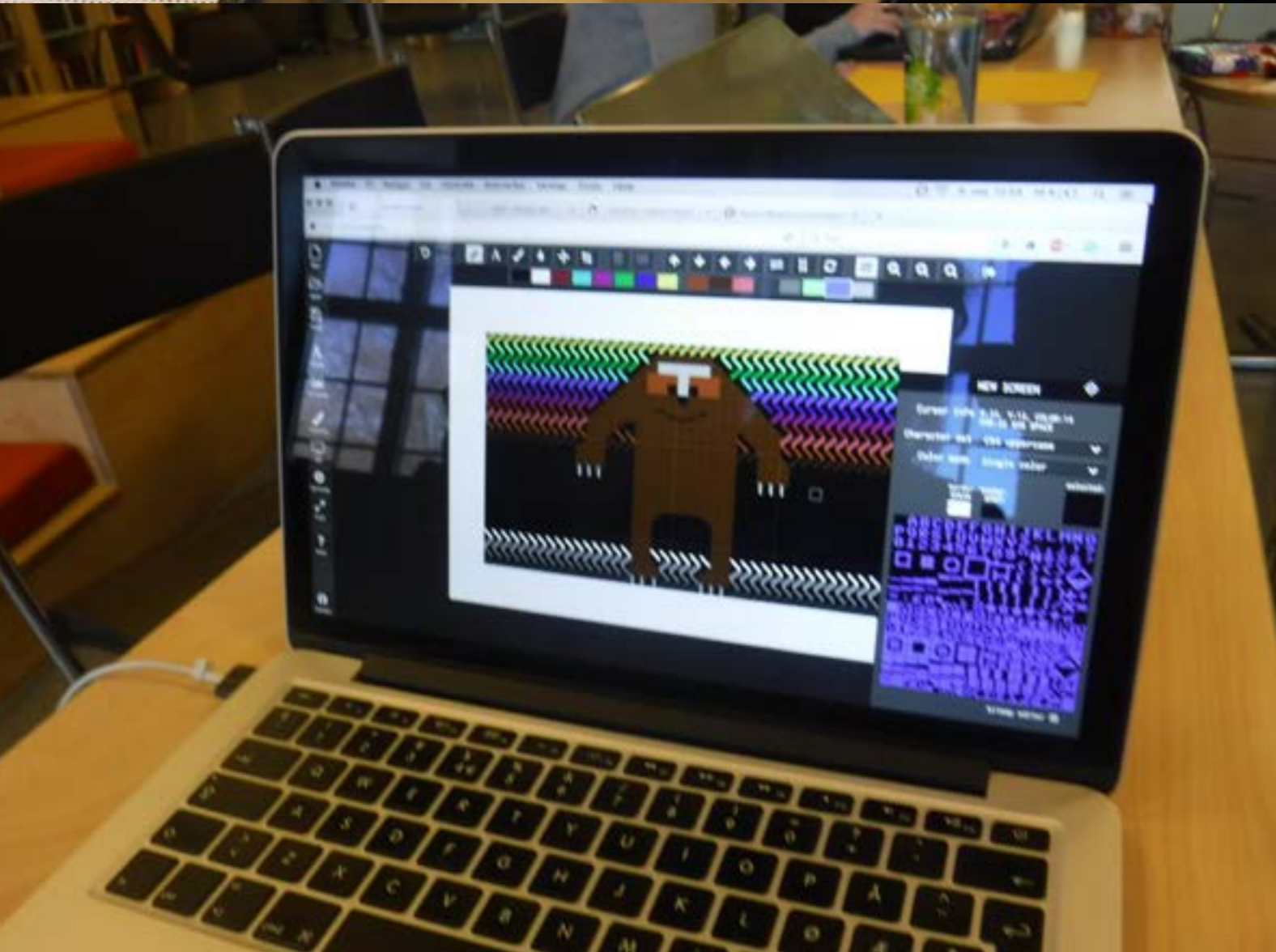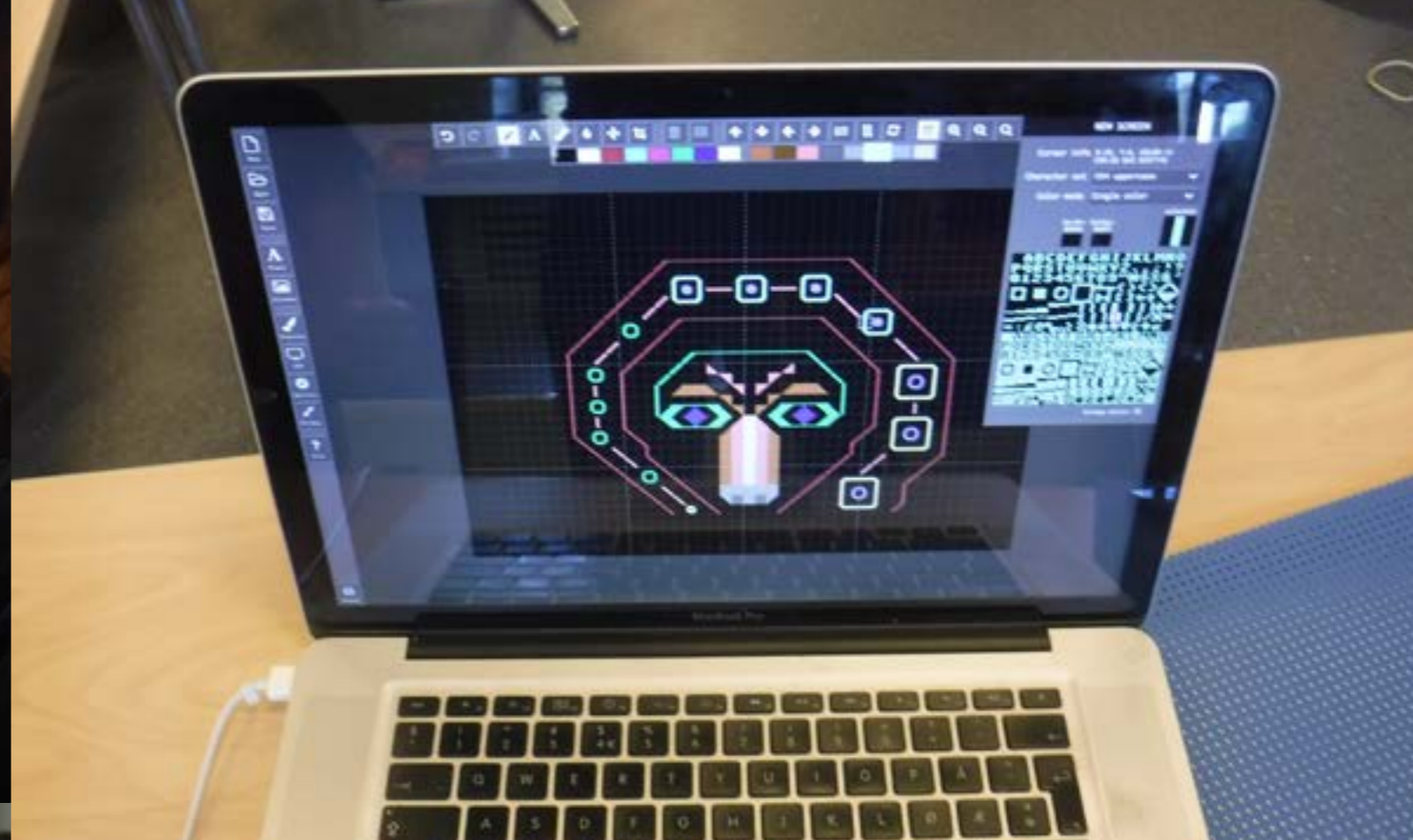
Datamosching (Workshop & Presentation, October 2017)

The third workshop "datamosching" by artist Rosa Menkman took place at the Bergen Bibliotek.
Can hacking the innards of a file give you insight into how the underlying data works – and how to unlock the aesthetic of a digital file? Here's one way to look into that question.
Datamoshing, or databending, is a complex technique where the movement in one layer of video is applied to another layer of footage, using lossy compression and removed frames to create a glitchy, psychedelic result.
Think of what it looks like when your Netflix stream is dragging and creates a ghost image transition.
Datamoshing is the practice of intentionally using compression artifacts in digital video and animated GIFs that is sometimes to referred to as "glitch art."
Glitch art is the practice of using digital or analog errors for aesthetic purposes by either corrupting digital data or physically manipulating electronic devices.In a technical sense, a glitch is the unexpected result of a malfunction, especially occurring in software, video games, images, videos, audio, and other digital artefacts.
What is called "glitch art" typically means visual glitches, either in a still or moving image. It is made by either "capturing" an image of a glitch as it randomly happens, or more often by artists/designers manipulating their digital files, software or hardware to produce these "errors."
Related processes such as datamoshing changes the data in a video or picture file.

Rosa Menkmans work collected under the monicker "Beyond resolution" deals with video and moving image as a tangable material in 3d space, taunting existing relotions and framerates by investigating video compression, feedback, and glitches

Rosa Menkman is a Dutch art theorist, curator, glitch artist and visual artist specializing in glitch art and resolution theory. Menkman has curated several international exhibitions of other artists' work at the Chicago Museum of Art, Glitch Festival, Transmediale in Germany and Sonic Acts in the Netherlands.
Menkman's research into the emerging form of glitch art was published as the book The Glitch Moment(um) at the University of Amsterdam, by the Institute of Network Cultures.
In her commentary, the glitch takes an unusual arrangement relative to noise, breakdown or coincidence. It shifts between artifact and mesh; between breakages and object making processes.
She wrote A Vernacular of File Formats and the Glitch Studies Manifesto in the same year. The manifesto was awarded 'best practice' by Virtueel Platform, the sector institute for e-culture in the Netherlands.
The publication of The Glitch Moment(um) coincided with the GLI.TC/H festival, organized by Menkman in collaboration with American artists Nick Briz and Jon Satrom. The first GLI.TC/H festival in 2010 (Chicago) was followed by a second and third edition in 2011 (Chicago, Amsterdam, Birmingham) and 2012 (Chicago).
In 2015 Menkman opened the "Institutions of Resolution Disputes" at Transfer Gallery in New York. In October 2015, one of the works in the show, DCT, referencing Discrete Cosine Transform was awarded 1st prize at the Crypto Design Challenge hosted by MOTI, the Museum of the Image.
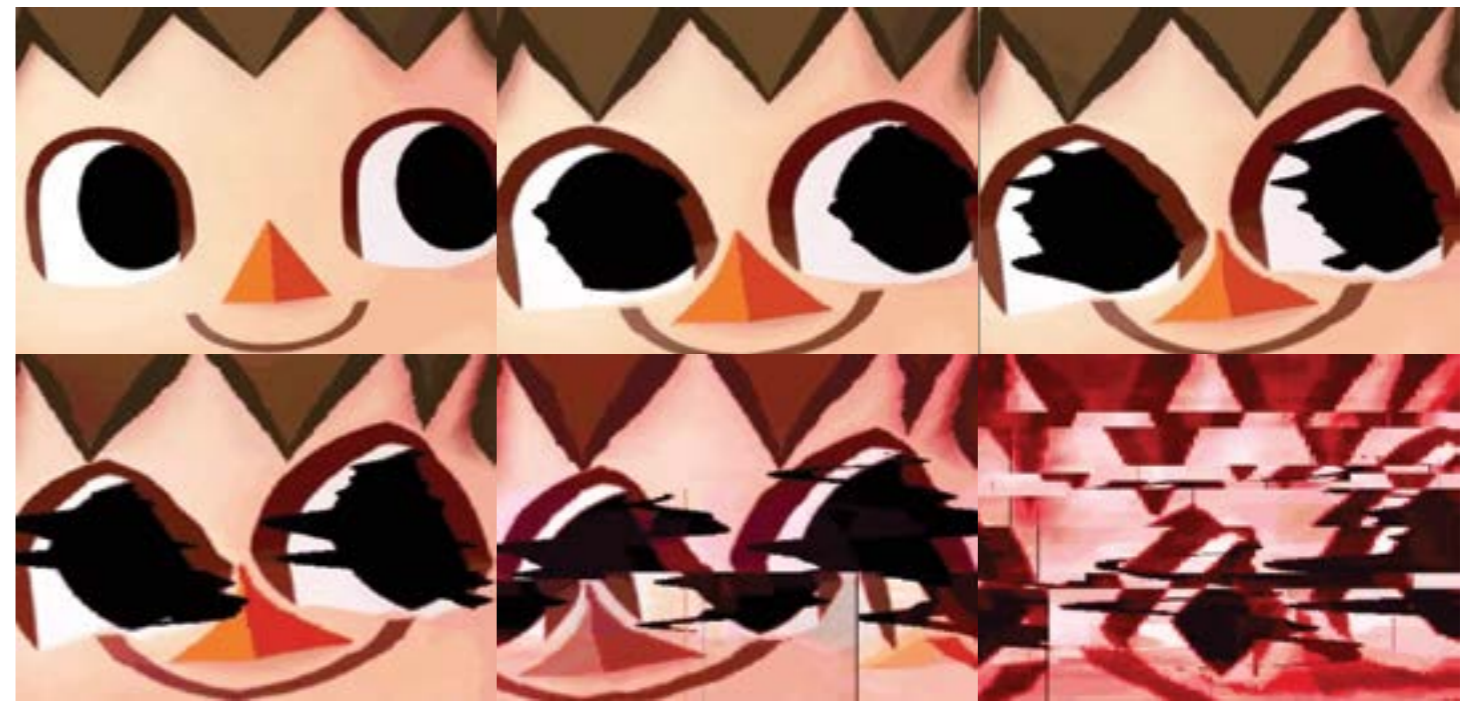
In the workshop Rosa introduced participants to the different structures or dialects of the more commonly used file formats. By showing how these can be used or exploited in a generative manner, to create 'new images'. The file format language itself is thus a tool for creation.
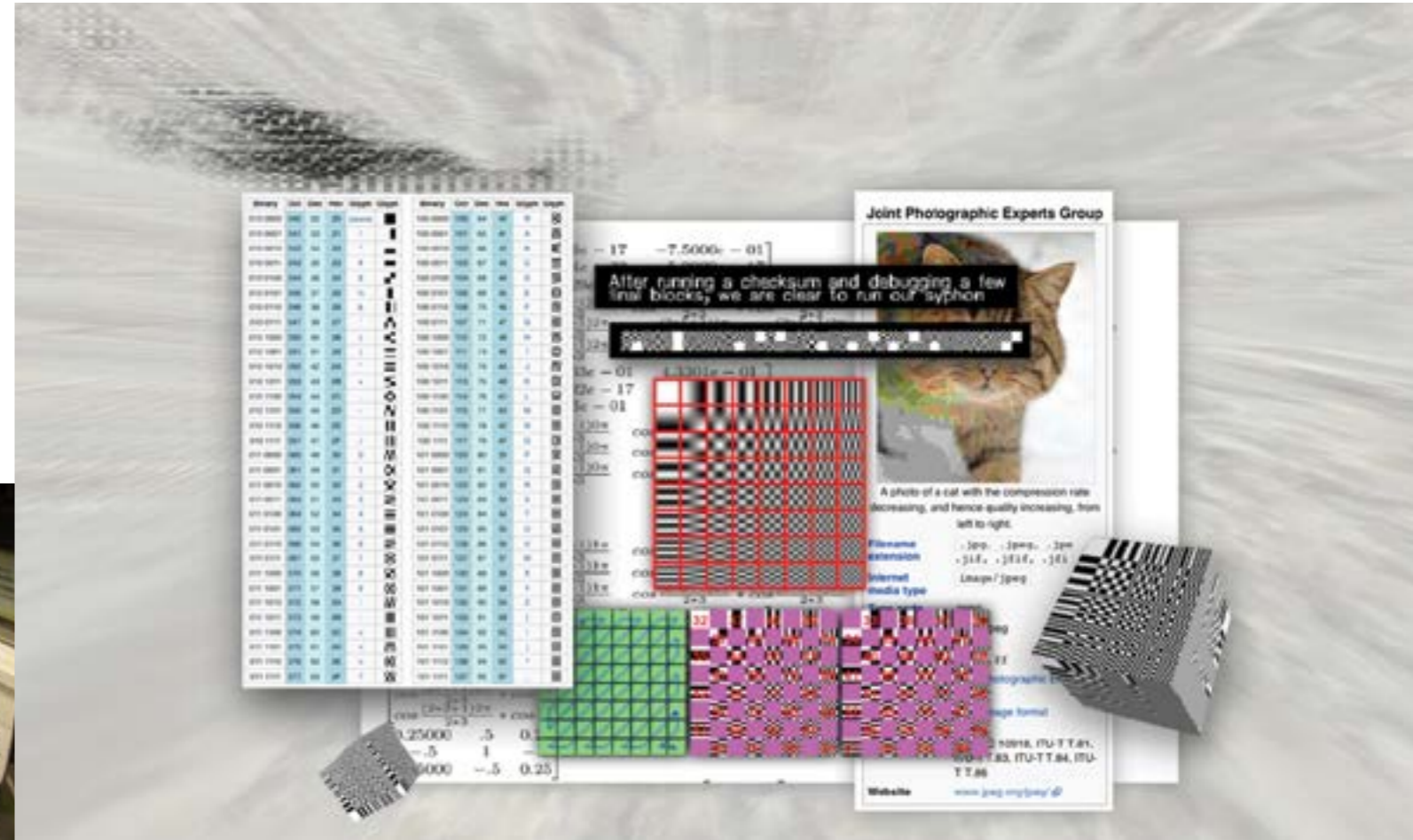
Workshop Databending at Bergen Offentlige Bibliotek

Examples of glitch(l) and Databending (r)

The Glicht Monumentum (Institute of Network Cultures) by Rosa Menkman

In this book, Rosa Menkman brings in early information theorists not usually encountered in glitch's theoretical foundations to refine a signal and informational vocabulary appropriate to glitch's technological moment(um) and orientations. The book makes sense of recent glitch art and culture: technically, culturally, critically, aesthetically and finally as a genre. The glitch takes on a different form in relation to noise, failure or the accident. It transitions between artifact and filter; between radical breakages and commodification processes. Menkman shows how we need to be clearer about the relationship between the technical and cultural dimensions of glitch culture. Honing in on the specificities of glitch artifacts within this broader perspective makes it possible to think through some of the more interesting implications of glitched media experience.
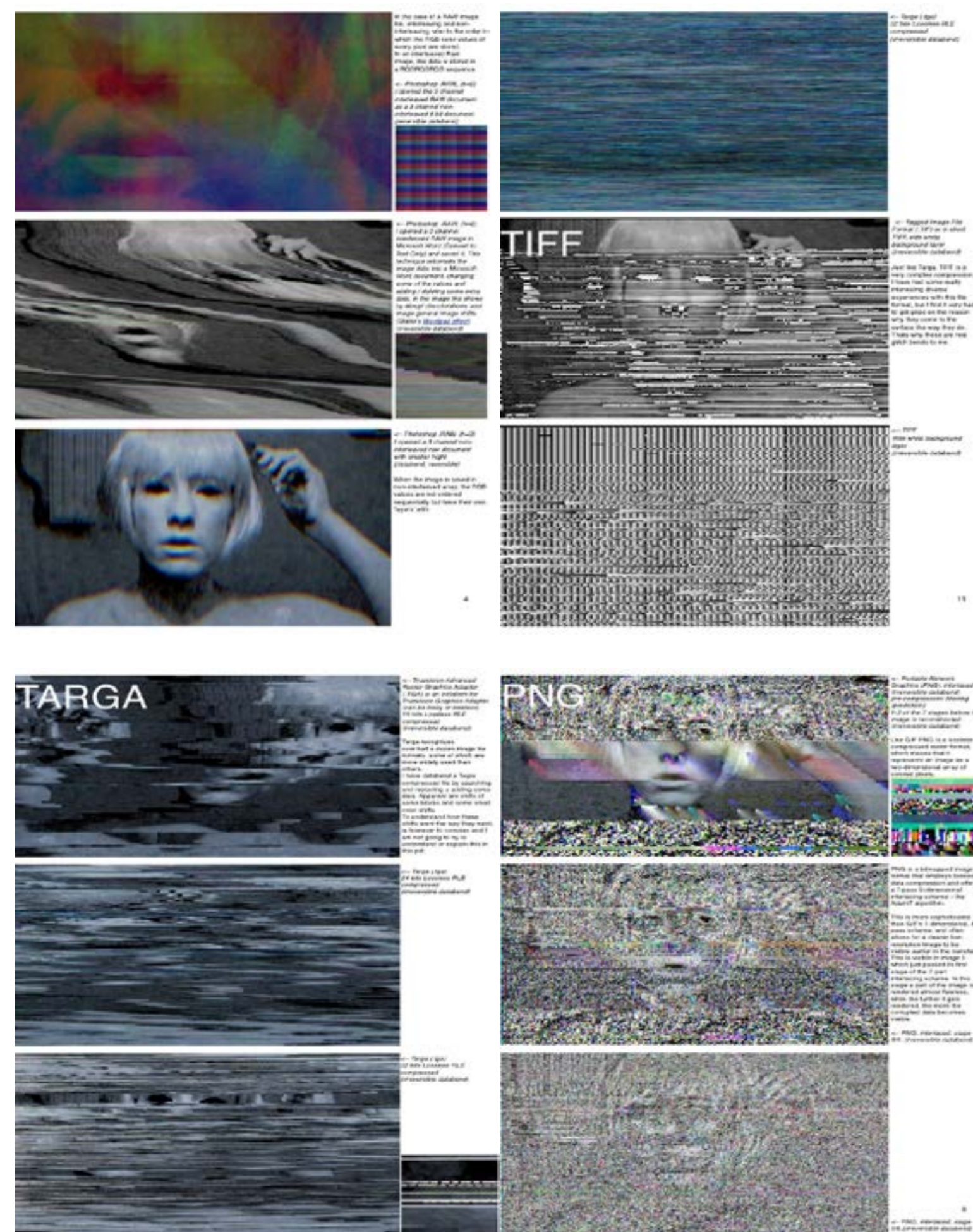

Glitch animation made during workshop

Databending animation made during workshop

Hardware methods for creating glitches

From Menkman´s Publication "A Vernacular of File Formats"
Every file format consists of a language or dialect in which it is encoded. Something I would like to think about as a grammar or idiom. When we break away from this grammar, by for instance glitching or databending, a new expression or visual slang can appear. Often these "new slangs" are directly dismissed as 'garbage' or 'noise artifacts' but the results of these noise artifacts can in fact be exciting, unexpected or even new forms of expression.

Sonic Acts "The Noise of being" seminar

Much of the digicraft project subject matter resonated with Sonic Acts Festivals 2017 edition "The Noise of Being", in which we took part as part of the project.
Over the years, Sonic Acts has established itself as a thematic festival with a strong focus on contemporary and historical developments at the intersections of art, technology, music and science.

With the 2017 programme, Sonic Acts continued the festival's gradual change in perspective, from The Dark Universe (2013) to planet Earth (The Geologic Imagination, 2015) to this year's The Noise of Being. This edition of the festival includes an exhibition, a three-day conference, workshops, masterclasses, films, performances and club nights at various venues throughout the city. Every day, artists, thinkers, hackers, diseases, natural disasters, stock market crashes, media, commodities, and fascist oligarchs administer us with a brutal portion of dissonance. Even our geological time is subject to dispute: the catastrophic Anthropocene epoch seems to have arrived, while the Crapularity, an era in which 90% of everything that surrounds us is deemed garbage, is just around the corner. But while confusion is paramount and insecurity dictates, no one would dare to refer to this time as the heyday of noise. There is more at stake than noise: we know too much to conflate these tragedies to a buzz. In a culture insidiously regulated by rules, arrays, functions, borders and resolutions, the natural fluidity and irrational essence of being is trapped in rigid datasets, filed by drop-down windows and stuck in checkboxes. What is at stake here is the noise of being itself; not just human being or being human, but a subsistence and the understanding of being. Even though all of our troubles are measured, categorised and indexed, we still need to feel noise. The Noise of Being is about what it also means to be human, to be part of a world that is an ever changing network. As Jean-Luc Nancy writes: 'Being is neither a being nor being. Being is feeling the noise of being, feeling its colour, its movement, its taste'. Being human takes place inside, outside and beyond the human: it happens within a mesh of shifting relations that include bacteria, companion species and inanimate objects — it involves the queer, the other and the non-human entities that we have (unintentionally) brought into being. Being human means to be noisy in a radically contingent world. What we do, think, feel and are, cannot be reduced to a discrete, meaningful signal.

Sonic Acts festival