



Silvia Binda Heiserova

Reclaiming Technology: A Collaborative Feminist Approach

October
16–20
2024



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HEK art n|w Fachhochschule Nordwestschweiz
Hochschule für Gestaltung und Kunst Basel

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BASEL
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Agenda

- 1 Introduction
- 2 Gender & Tech
- 3 Power Dynamics
- 4 Demystification
- 5 Practice-based
Reclaiming
- 6 Conclusion &
Discussion

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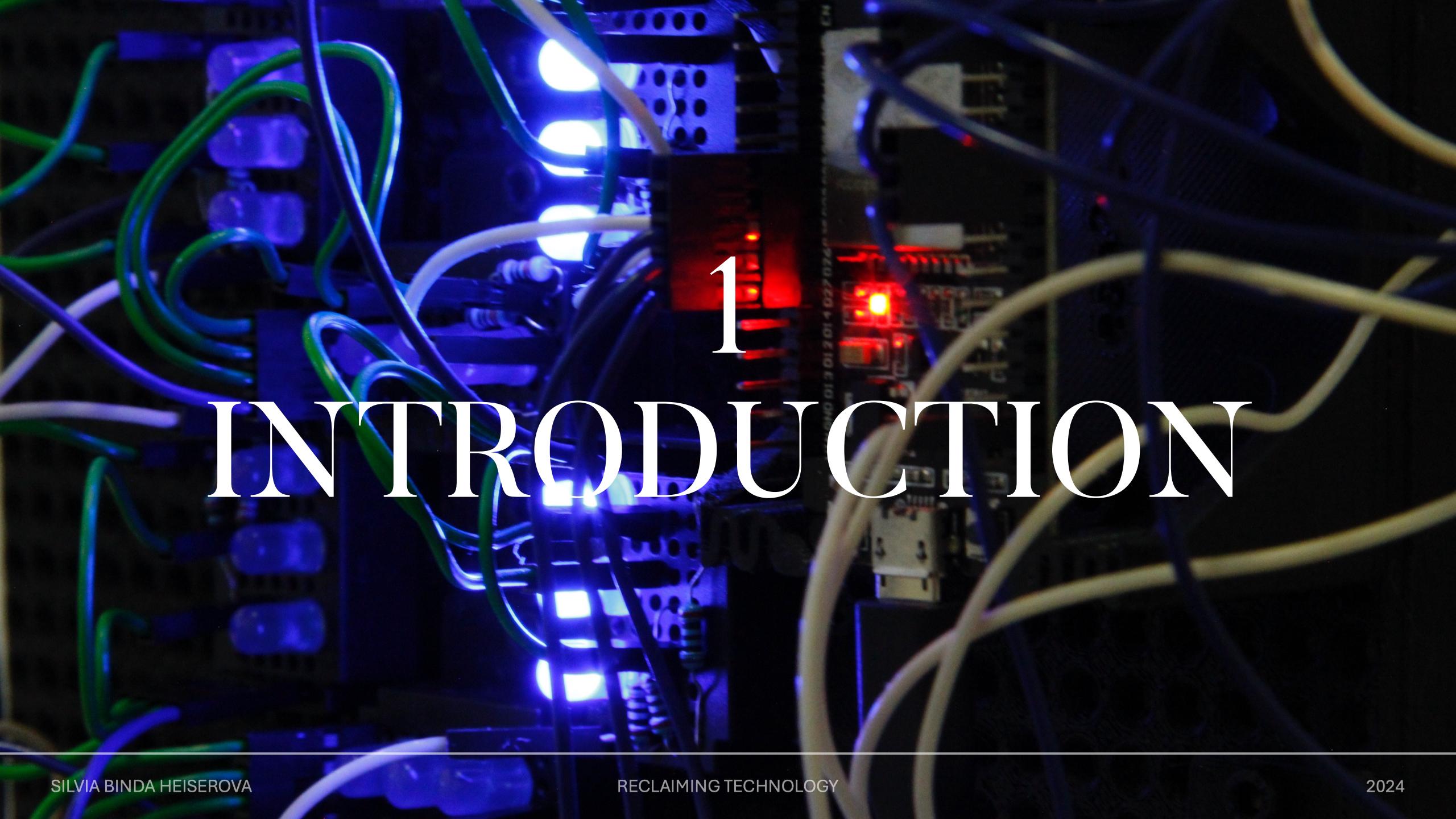
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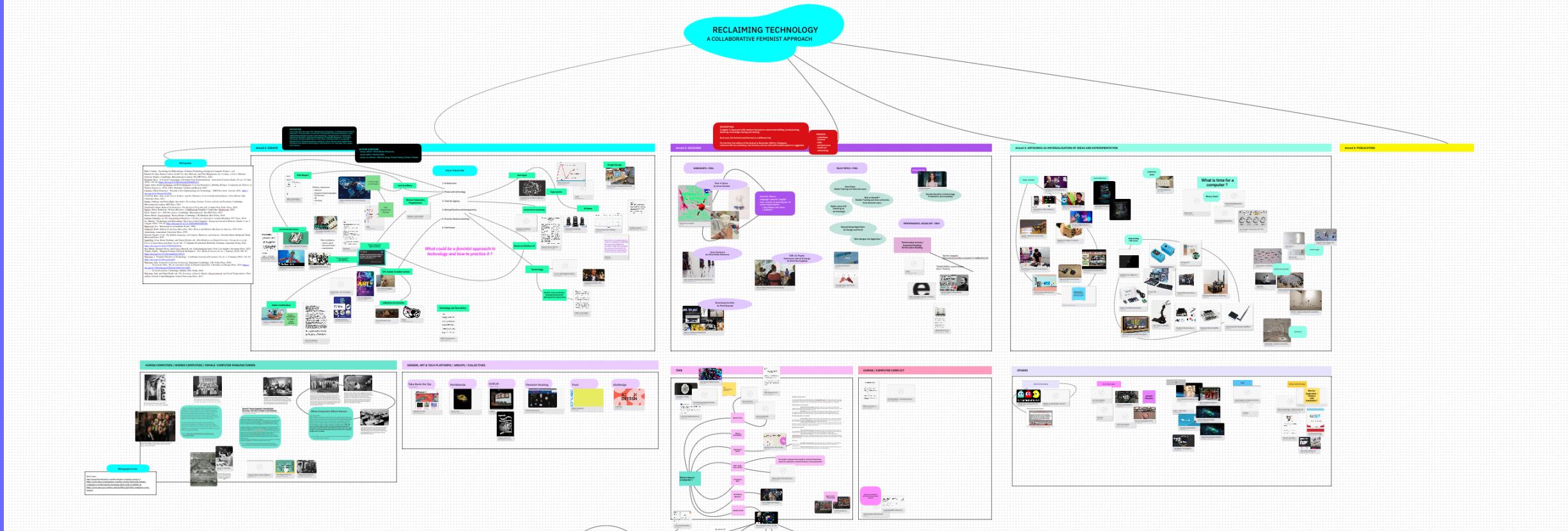
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1 INTRODUCTION

A practice-based artistic research project



Rethink
androcentric
narratives
around
technologies

“Popular idea of technology as an autonomous factor, an artefact, a fact, but also an essentially pristine and neutral form of reality that requires little explanation.”

- Ruth Oldenziel,
Making Technology Masculine

Technology as socially shaped artefact

IS NOT

- neutral
- objective
- untouchable
- unchangeable

What could be a
feminist approach to
technology and how
to practice it ?



2

GENDER & TECHNOLOGY

Why is technology seen as a masculine domain?

Why is technology seen as a masculine domain?

Gendered history
of technology

Societal Gender
Power Relations

New Male
Identity

Military background
of technology

Nature/
Culture
Myth

Knowledge
gatekeeping

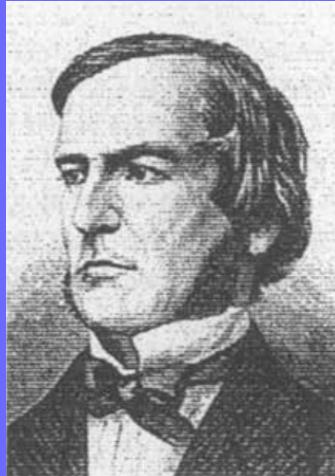
Gendered history of computing



Louis Braille
p.15



Samuel Morse
p.40



George Boole
p.87



Charles Babbage
p.240



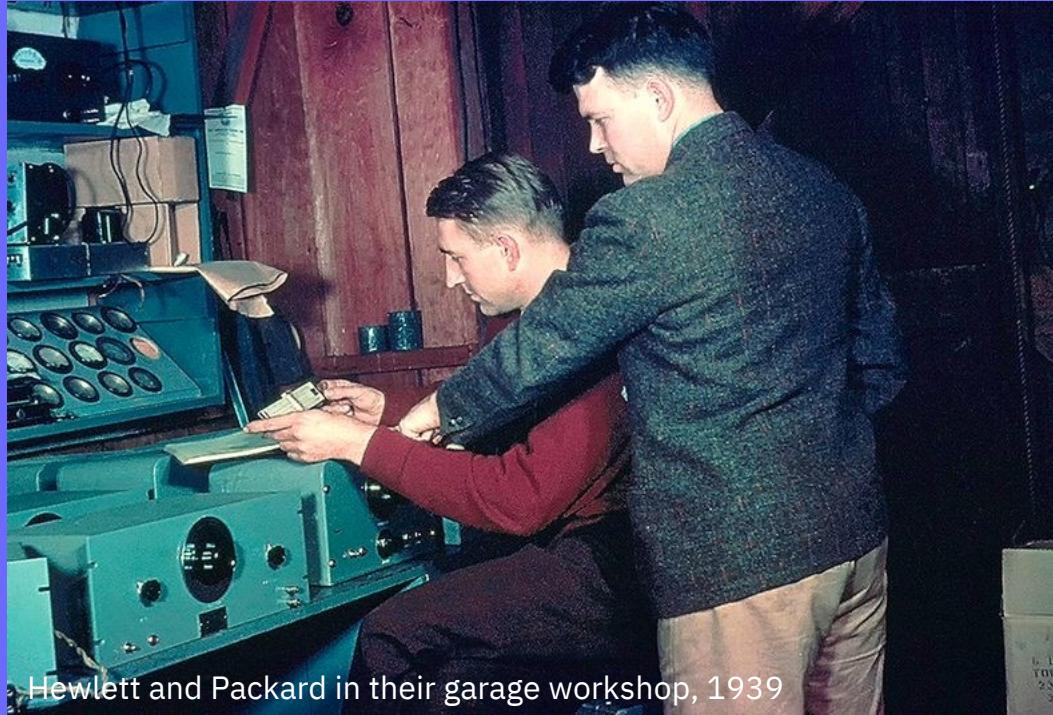
Herman Hollerith
p.241



John von Neuman
p.245

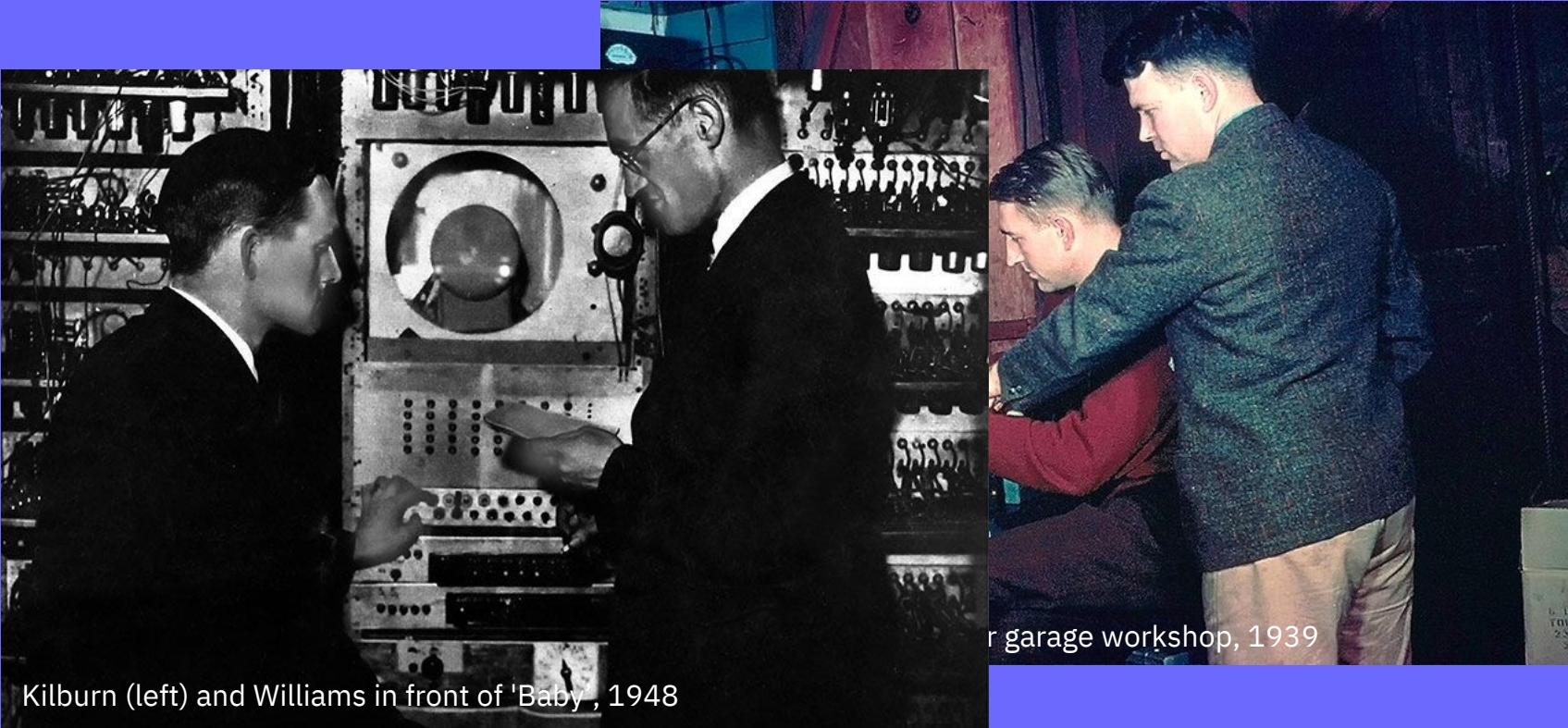
All portraits included in the book *Code* by Charles Petzold (Microsoft Press: 2021)

Gendered history of computing

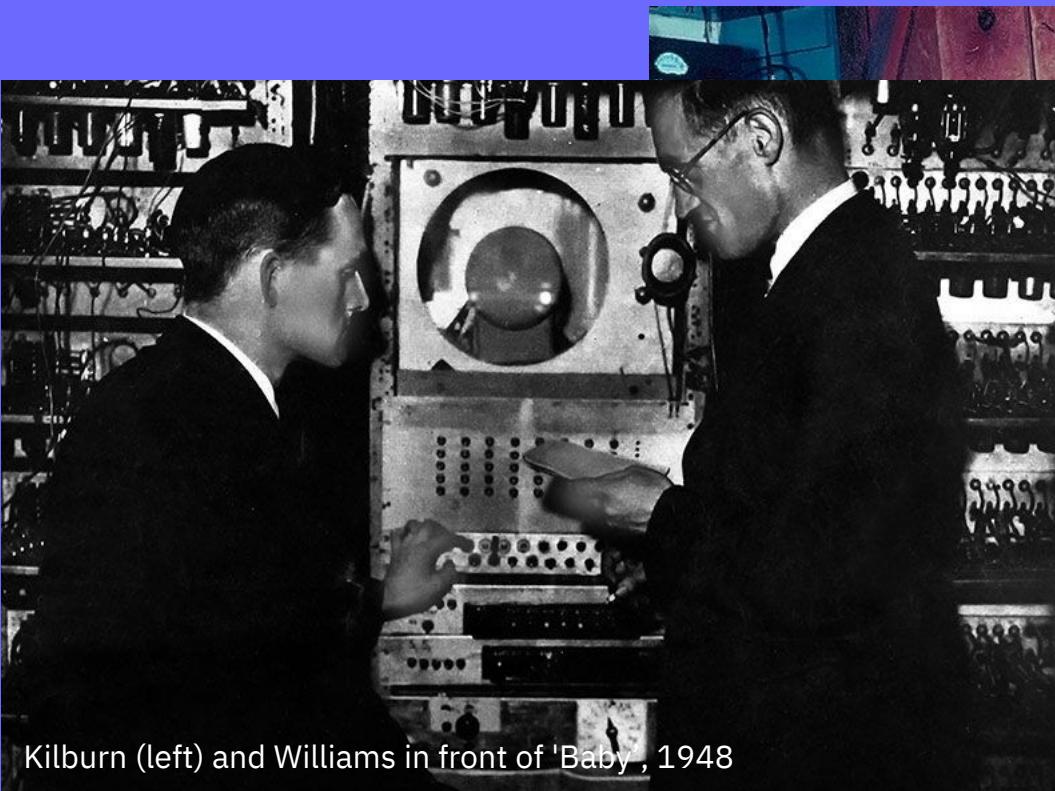


Hewlett and Packard in their garage workshop, 1939

Gendered history of computing



Gendered history of computing



Kilburn (left) and Williams in front of 'Baby', 1948

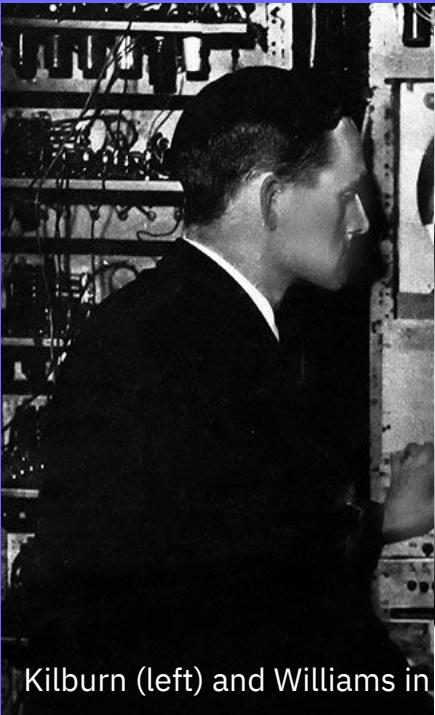


Atgar garage workshop, 1939



Cuthbert Hurd (standing) and Thomas Watson, Sr.
at IBM 701 console, 1954

Gendered history of computing



Kilburn (left) and Williams in

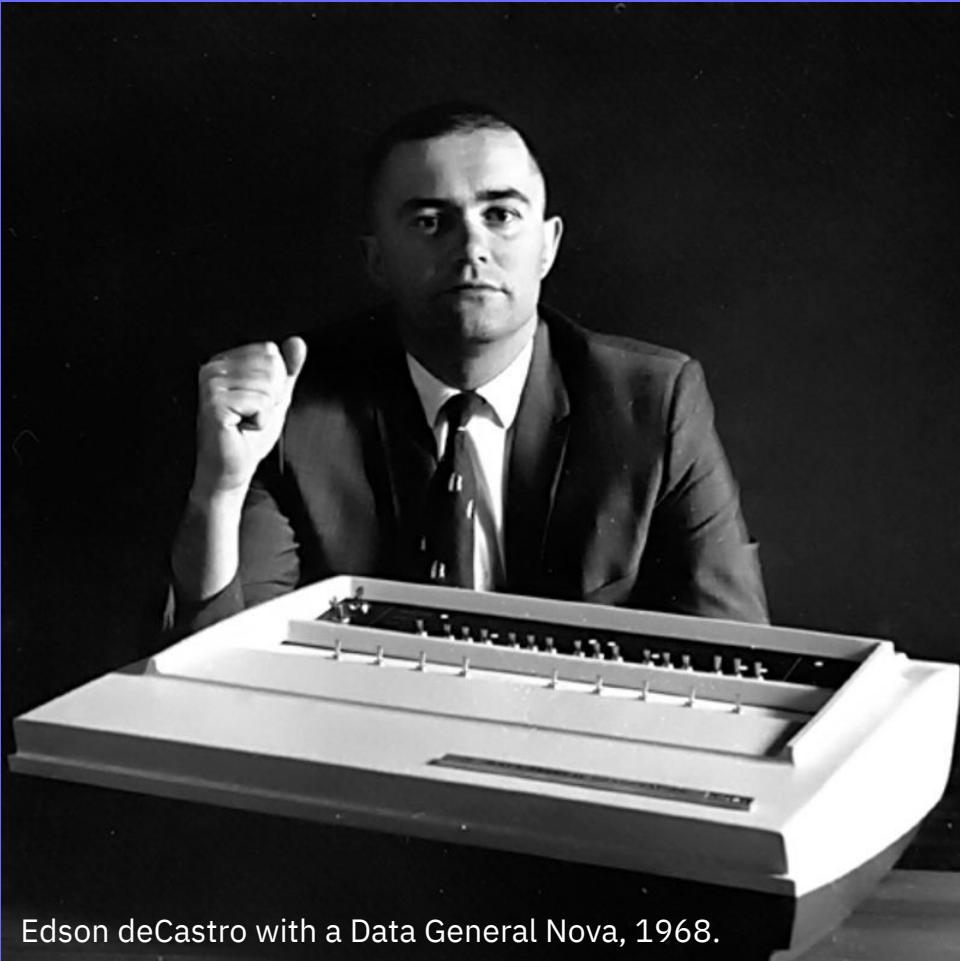


Student using ASR-33, 1960's



Cuthbert Hurd (standing) and Thomas Watson, Sr.
at IBM 701 console, 1954

Gendered history of computing

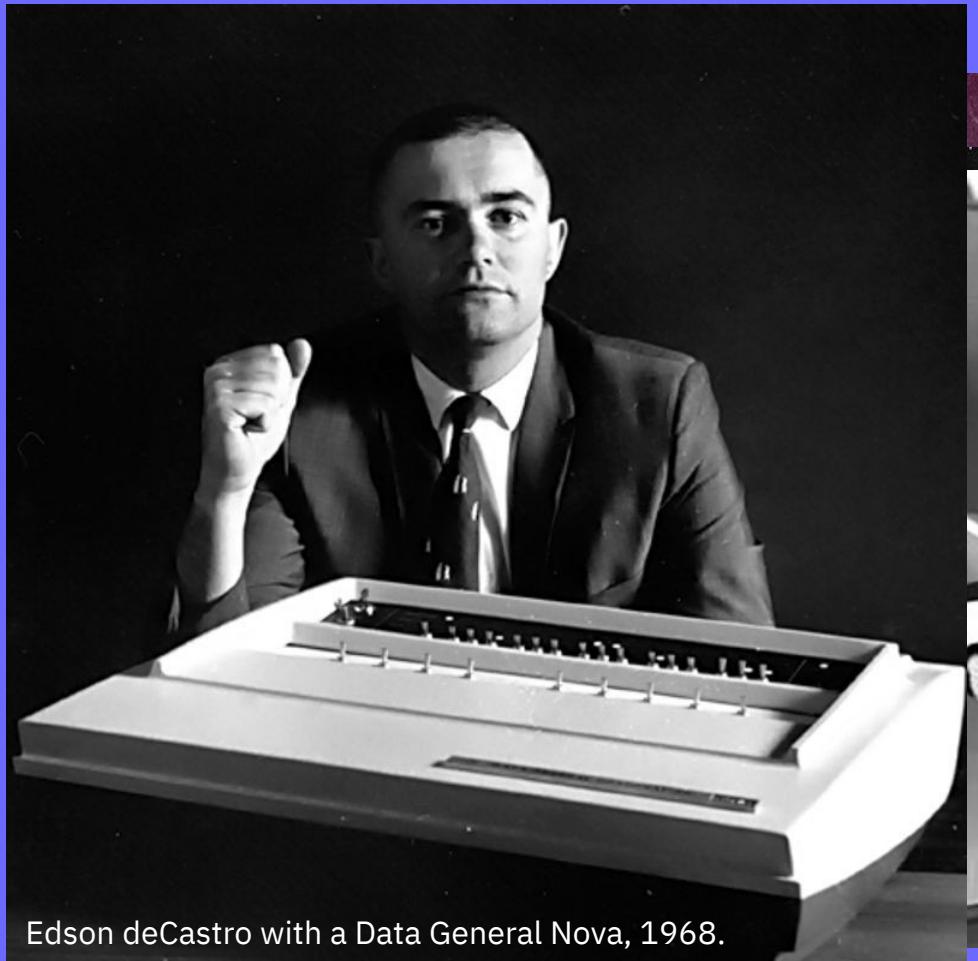


Edson deCastro with a Data General Nova, 1968.

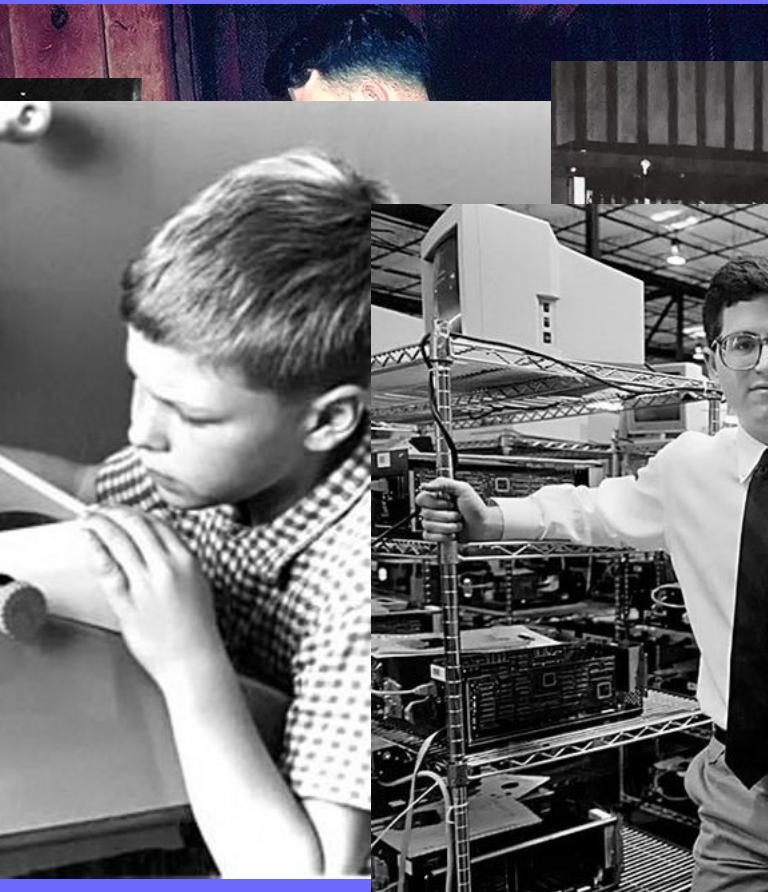


Cuthbert Hurd (standing) and Thomas Watson, Sr.
at IBM 701 console, 1954

Gendered history of computing



Edson deCastro with a Data General Nova, 1968.



RECLAIMING TECHNOLOGY



PC's Limited founder Michael Dell, 1985.

Gendered history of computing



Edson deCastro with a Data Gener

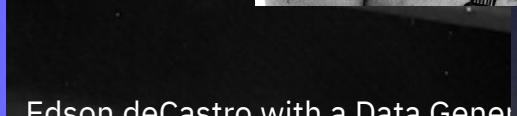


Steve Jobs introducing MacBook Air, 2008



PC's Limited founder Michael Dell, 1985

Gendered history of computing



History of computing



Human computers at JPL, cca. 1936. Credits: NASA/JPL-Caltech

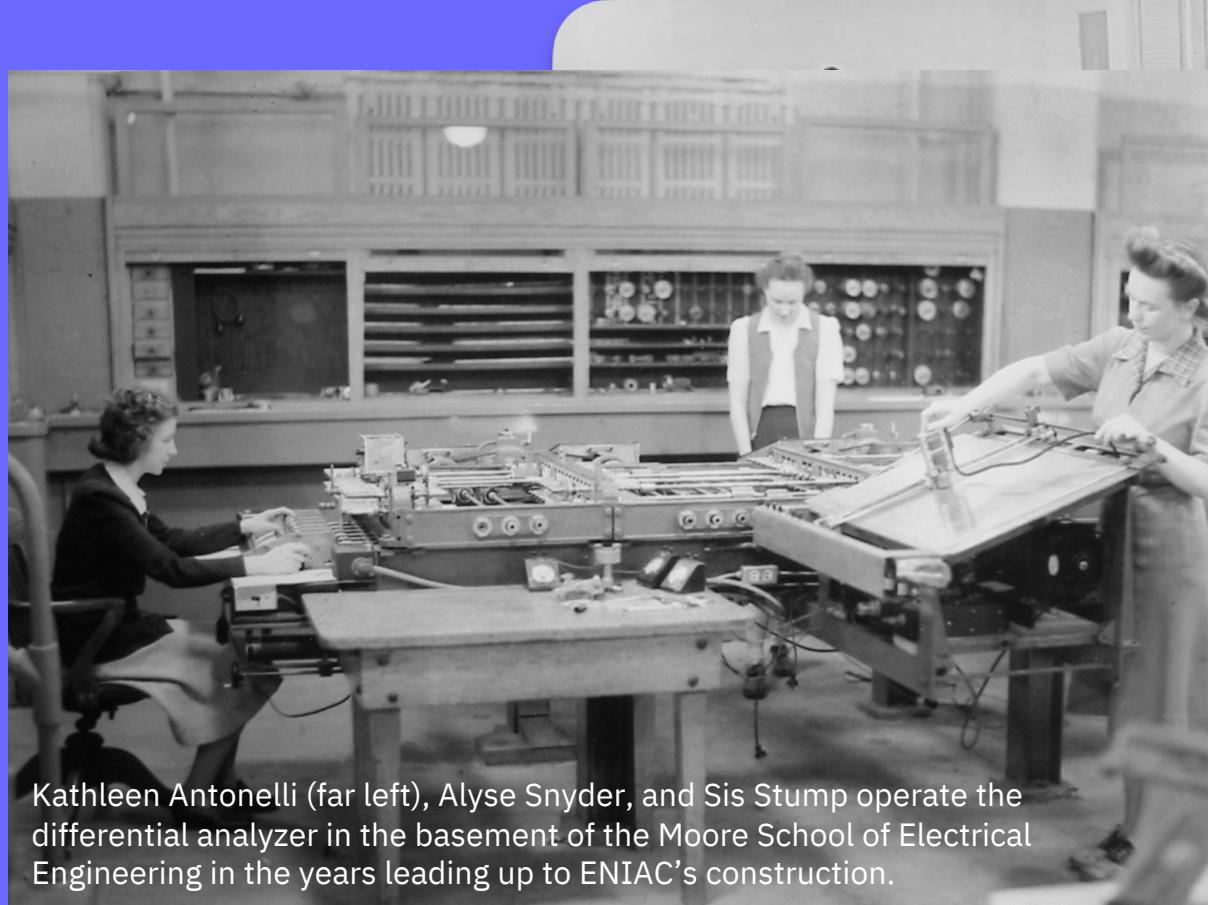
History of computing



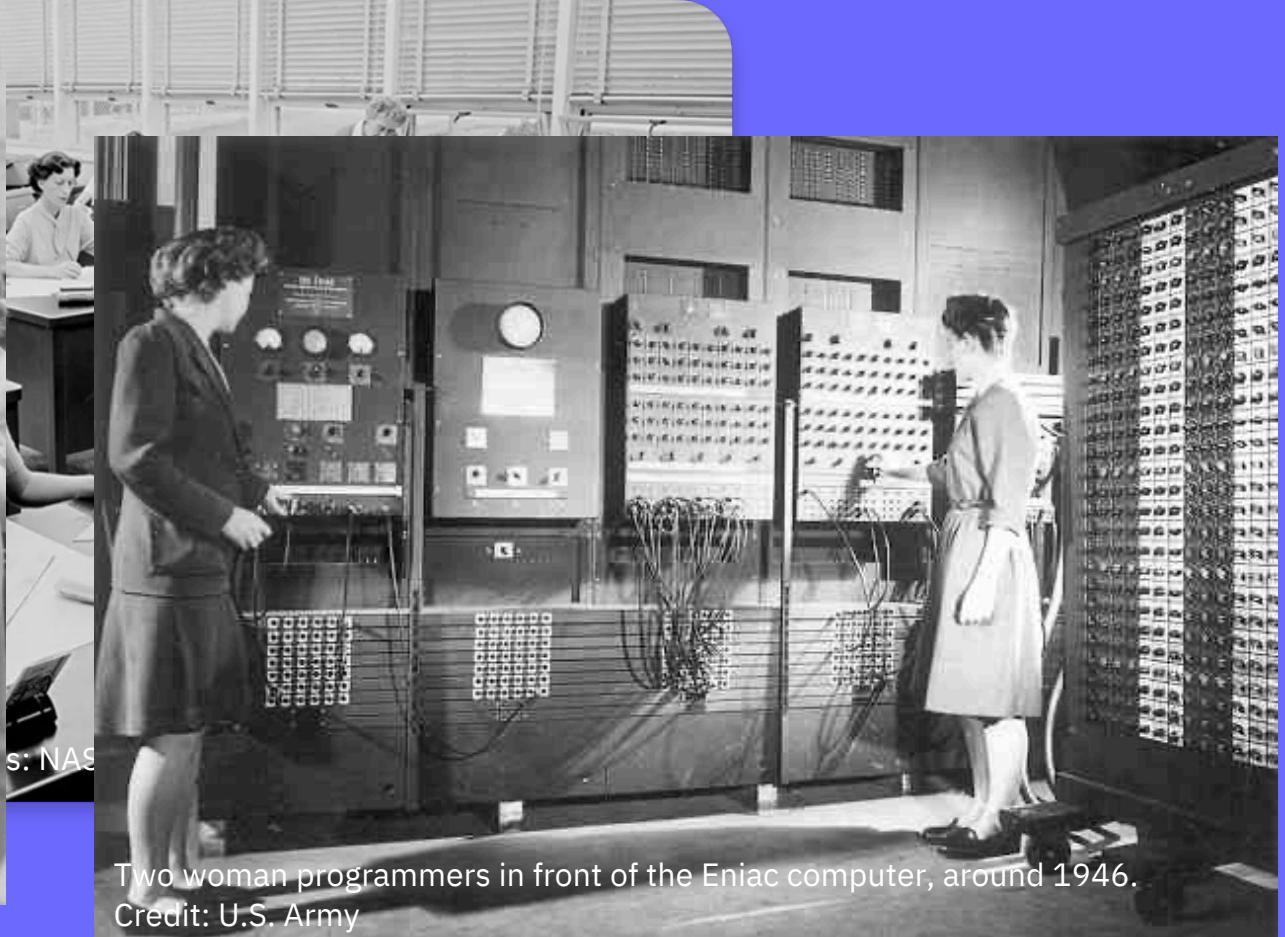
Kathleen Antonelli (far left), Alyse Snyder, and Sis Stump operate the differential analyzer in the basement of the Moore School of Electrical Engineering in the years leading up to ENIAC's construction.

s: NASA/JPL-Caltech

History of computing



Kathleen Antonelli (far left), Alyse Snyder, and Sis Stump operate the differential analyzer in the basement of the Moore School of Electrical Engineering in the years leading up to ENIAC's construction.



Two woman programmers in front of the Eniac computer, around 1946.
Credit: U.S. Army

History of computing



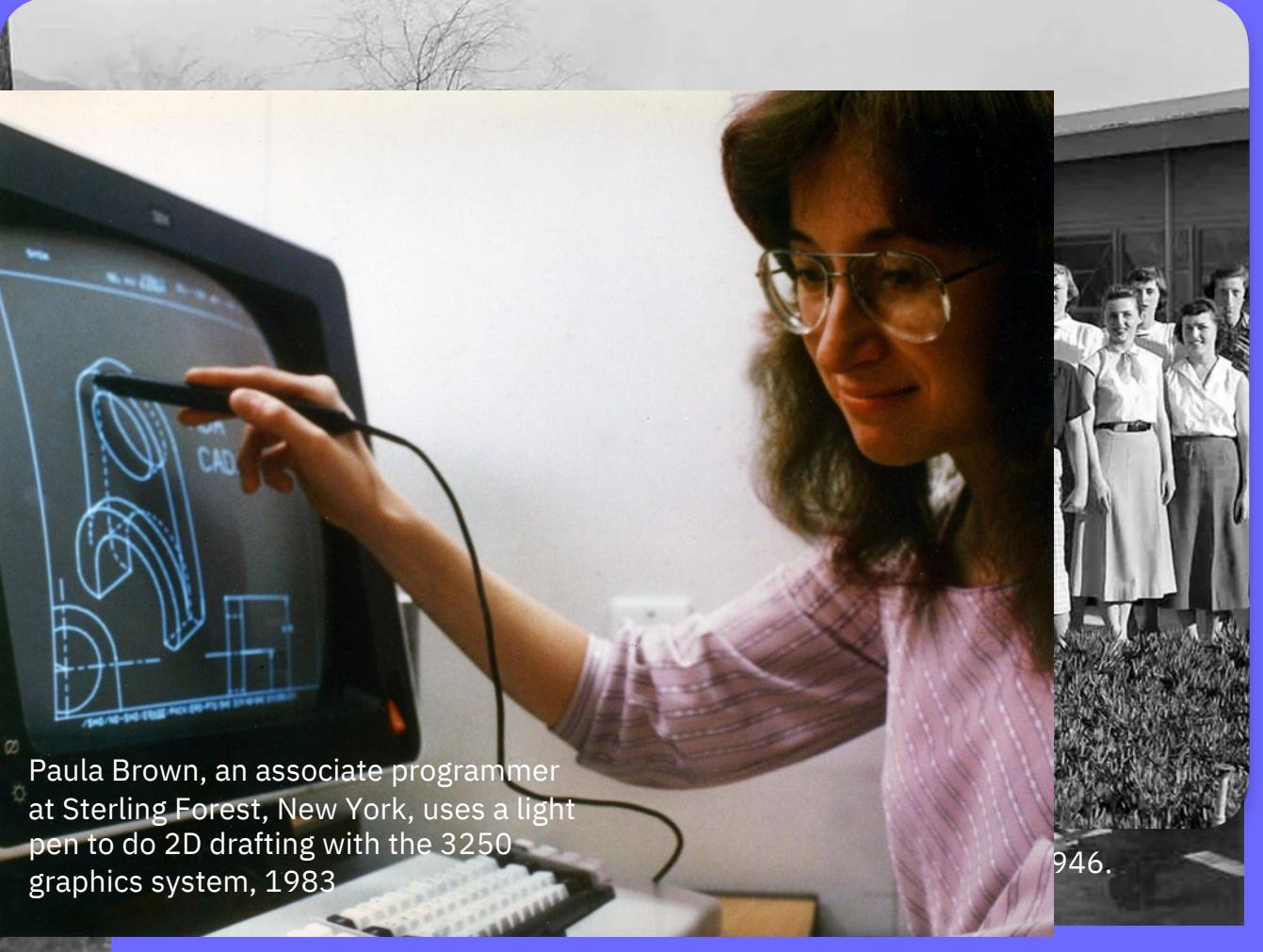
History of computing



History of computing



History of computing



“Women have not merely had a minor part to play in the emergence of the digital machines. ... Hardware, software, wetware - before their beginnings and beyond their ends, women have been the **simulators, assemblers, and programmers** of the digital machines.”

- Sadie Plant, *Zeros and Ones*

Human Computers



"Human computer"
Doris Baron, works
with tape from
machines measuring
air pressure, 1955.

Computers weren't
always made of CPUs,
at one time, they were
"human / women
computers"

Computers, Operators



The speech synthesizer Voder demonstrated by Mrs. Harper at the Franklin Institute, 1939.

ENIAC, NASA, VODER,

Often remained Anonymous

Disproving the stereotype
that women lack rational
thinking

Engineers and Computers



Staff of engineers and
computers of the 4x4-foot
Supersonic Pressure Tunnel at
NACA-Langley in the 1950s

Gendered labour

Development of hardware (M) was the “real business”

Software (F) was at best secondary

Gendered labour

Male

“Head-work”

Scientist, Planner

Intellectual

High-level

Female

“Hand-work”

Coder

Static

Low-level

When did
“women’s work”
become a
“man’s world” ?

1950's
computer programming
acquiring new status
and a new gender
identity

-> required daring,
creativity, mathematical
intuition

"New occupational and professional identity, based on the academic prestige of the emerging discipline or the exclusivity, was essentially masculine"

- Nathan Ensmenger

1960's
rapid expansion of the
commercial computer
industry

->need for
recruitment of large
numbers of
programmers

PROFESSIONALIZATION
=
MASCULINIZATION

1980's

“Women and girls use computers,
men and boys love them ...
Women are almost without exception
bystanders in the passionate romance
that men conduct with these machines,
whether in computer science laboratories,
video game parlours, garages, or dens.”

- *New York Times*, 1986

“It was a commonly held expectation that with the development of microelectronics, the **gender stereotyping of technology would diminish.**

Yet recent evidence on the gender gap in access to computers supports the idea that our culture has already defined computers as eminently **male machines.**

- Judy Wajcman, *Feminism Confronts Technology*

Tech is not inherently masculine

Masculine culture was created over decades

- institutions
- practices
- popular culture
- socialization

3 POWER DYNAMICS

Tech/power dynamics

1. Power of technology design
2. Power to design
3. Power of knowledge
4. Power infused in time experiencing

“Our society has been so computerized that even the most basic human activities involve us in constant interaction with computers.

Less visible are the millions of other tiny computing devices that lie hidden, embedded within other products and technologies, quietly gathering data, controlling processes, and communicating between components.”

-Nathan Ensmenger, *The Computer Boys Take Over*

Tech/power dynamics

1. Power of technology design
2. Power to design
3. Power of knowledge
4. Power infused in time experiencing

“Know-how is a resource that gives those who possess it a degree of power.

Technical competence is a key source of men's power over women.”

- Judy Wajcman, *Feminism Confronts Technology*

Tech/power dynamics

1. Power of technology design
2. Power to design
3. Power of knowledge
4. Power infused in time experiencing

“Time is infused with power relations, such as those of gender, class, and race, which are increasingly mediated by digital technologies.”

Judy Wajcman, *Pressed for Time*

What is “time” to a computer?

What is “time” to a computer?

Epoch Time

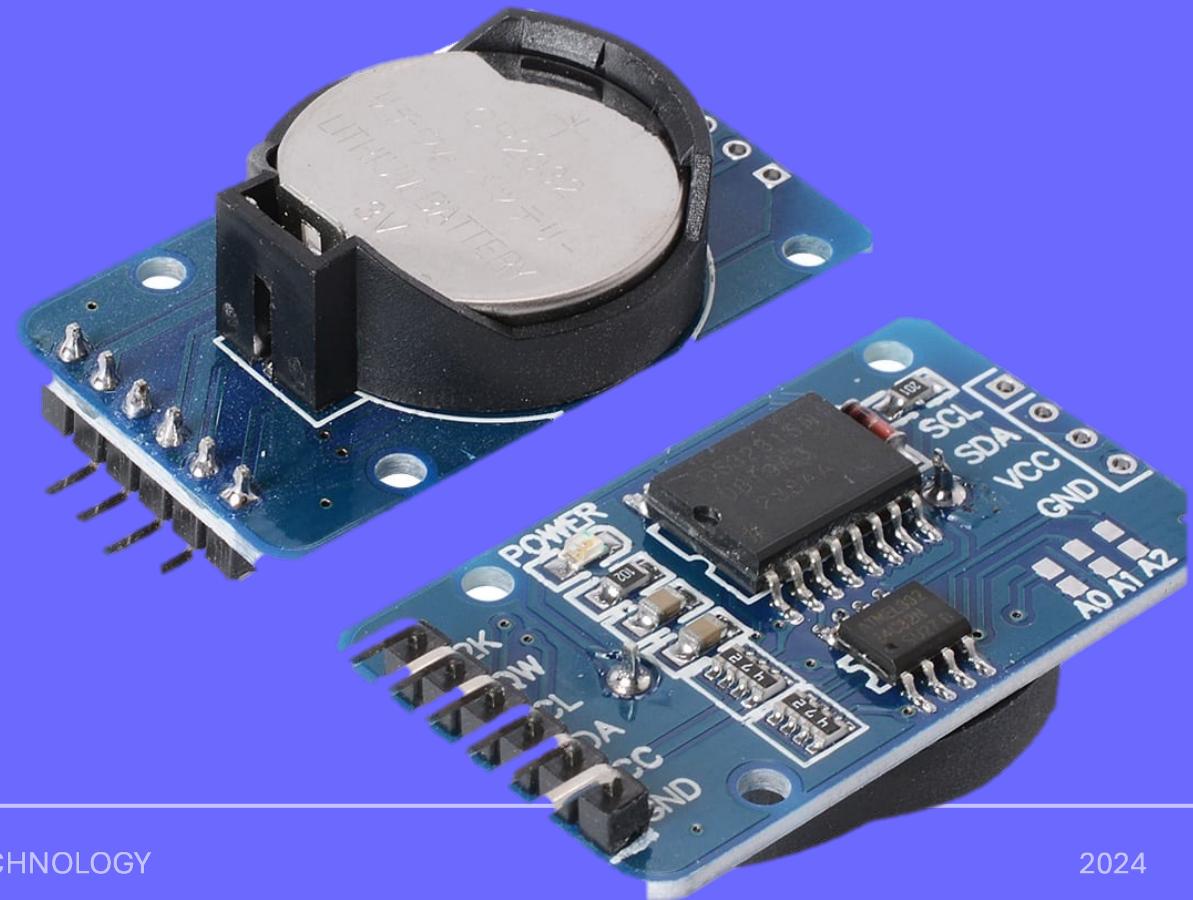
1728482055

SECONDS SINCE JAN 01 1970 (UTC)

15:54:17

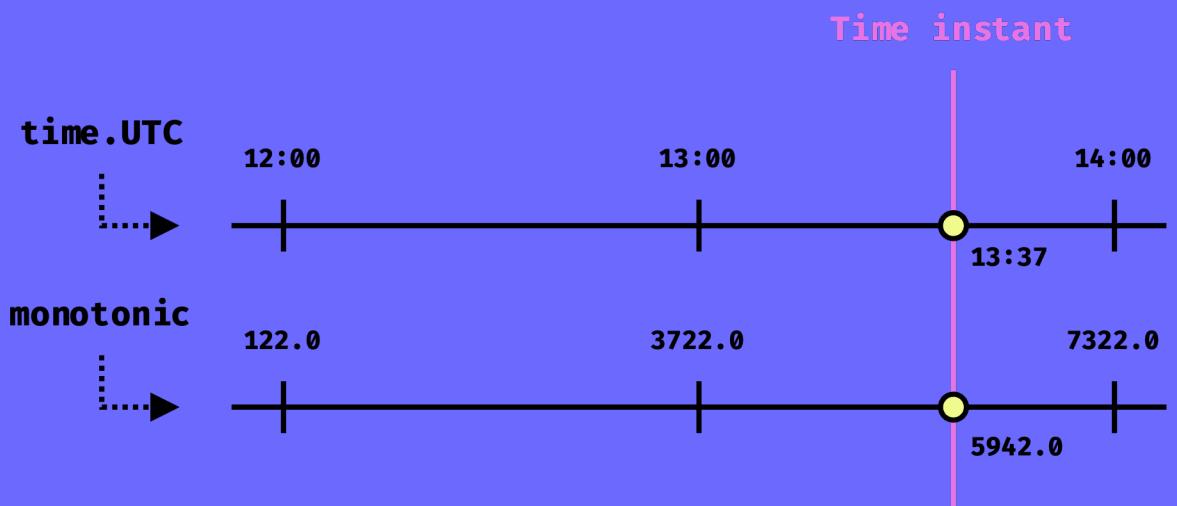
What is “time” to a computer?

Real time (RTC)



What is “time” to a computer?

Monotonic time

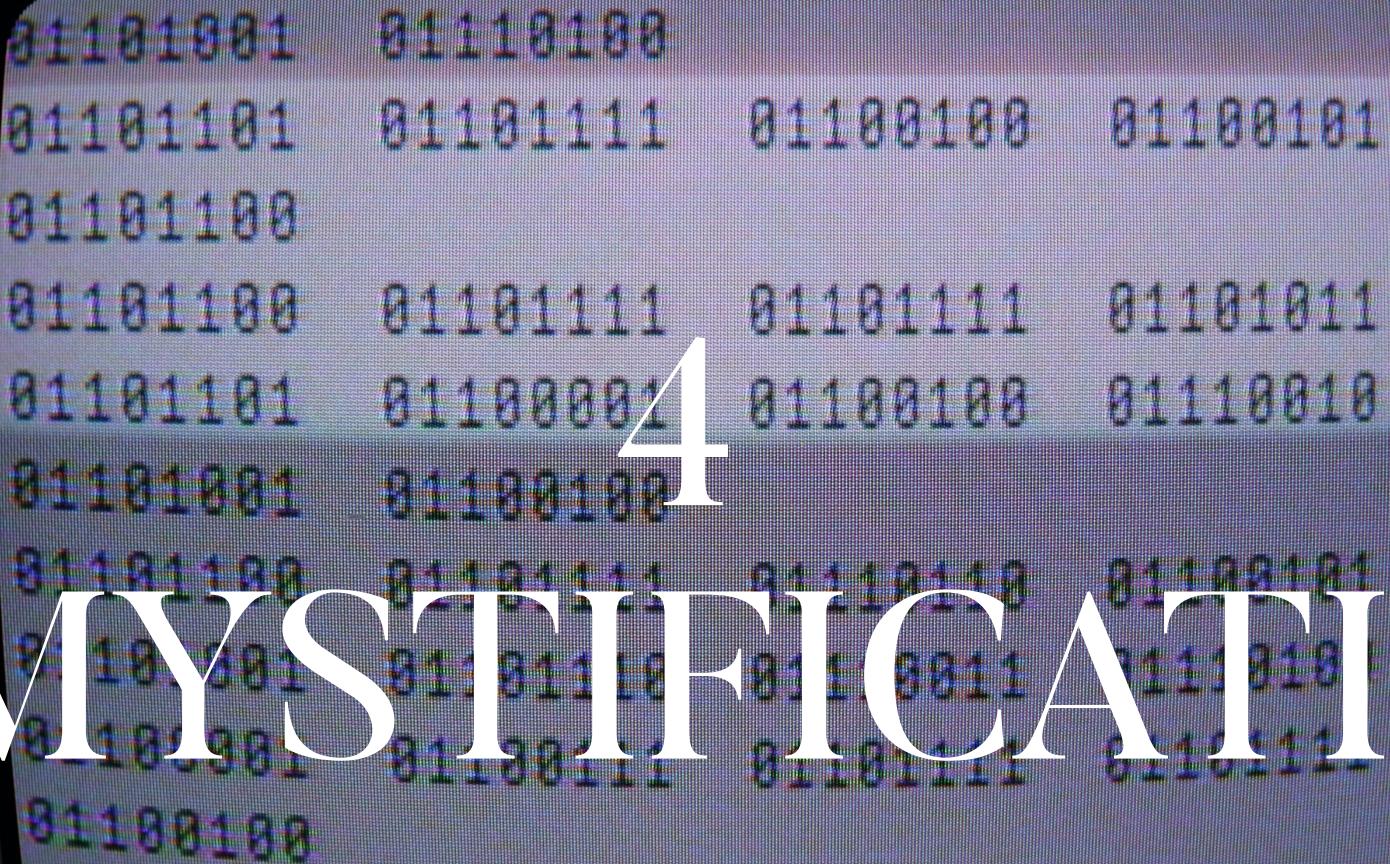


Time instant representation. Source: willem.dev

By understanding partial
concepts of HW and SW,
we can demystify tech
and challenge the
established power dynamics.

DEMYSTIFICATION

4



A close-up photograph of a smartphone screen against a dark background. The screen displays a grid of binary digits (0s and 1s) in a light blue color. The digits are arranged in approximately 10 rows and 4 columns. In the center of the grid, the number '4' is displayed in a large, white, serif font. The phone has a black frame and a visible camera lens at the top right corner.

01101001	01110100		
01101101	01101111	01100100	01100101
01101100			
01101100	01101111	01101111	01101011
01101101	01100001	01100100	01110010
01101001	01100100		
01101100	01101111	01101111	01101111
01101100	01101111	01101111	01101111
01101100	01101111	01101111	01101111
01101100	01101111	01101111	01101111

Mystifying Language

God Mode



Cowboys



Magic



Wizards

Gurus

Mystifying Language

- lack of transparency
- gatekeeping
- unwillingness to share knowledge
- maintaining the privilege

Call for a transparent language

Consciousness

- MATERIALITY of technology
- at the start of every ALGORITHM, there is a HUMAN MIND
- TECHNOLOGY IS BUSINESS
- there is not only one correct way of how to use technology
- RIGHT to criticize, question, disassemble, reassemble

Computers are “stupid”
until people tell them
what to do.



5 PRACTICE – BASED RECLAIMING

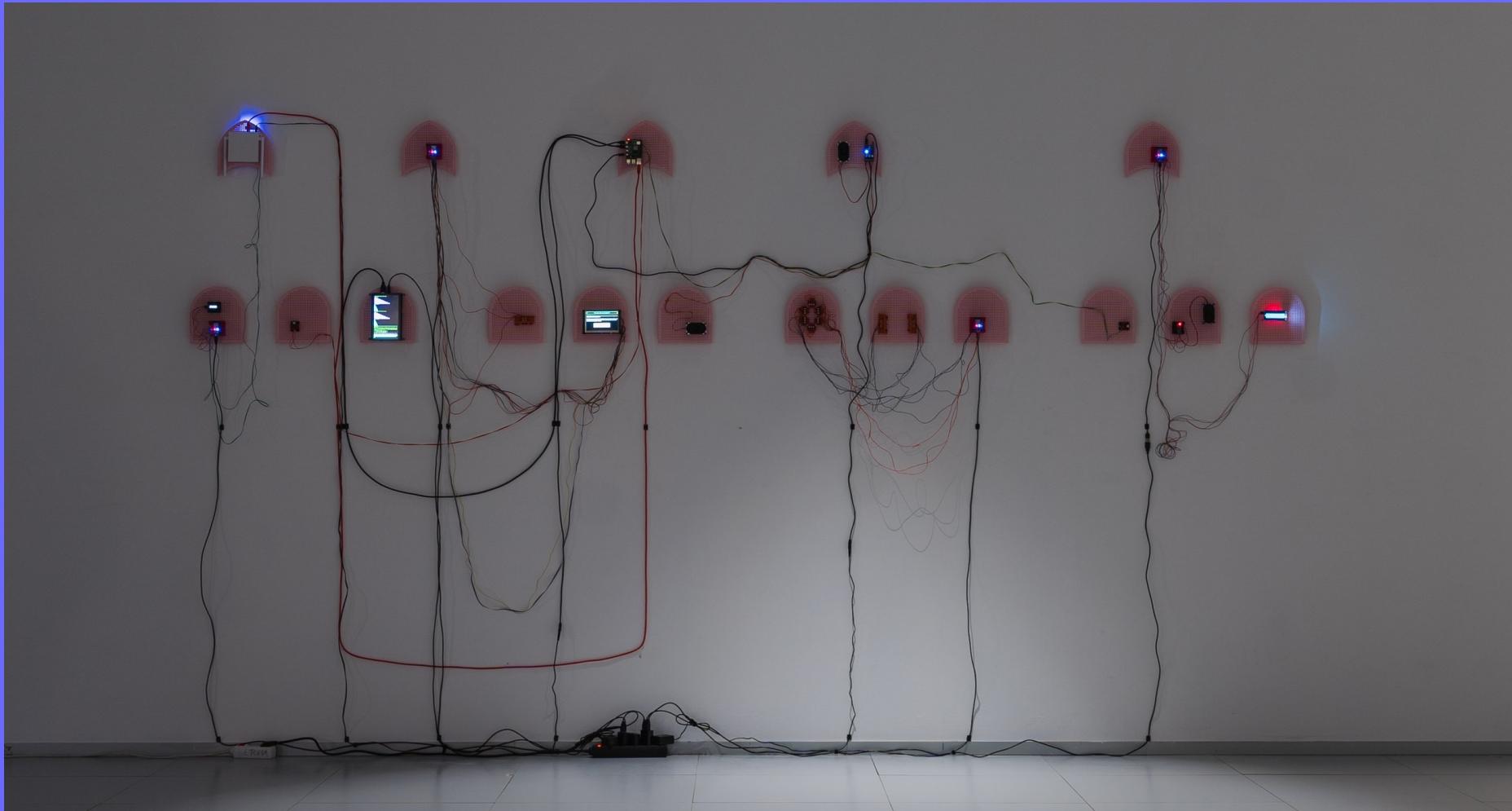
Critical Artworks Production

Building Collaboration Networks

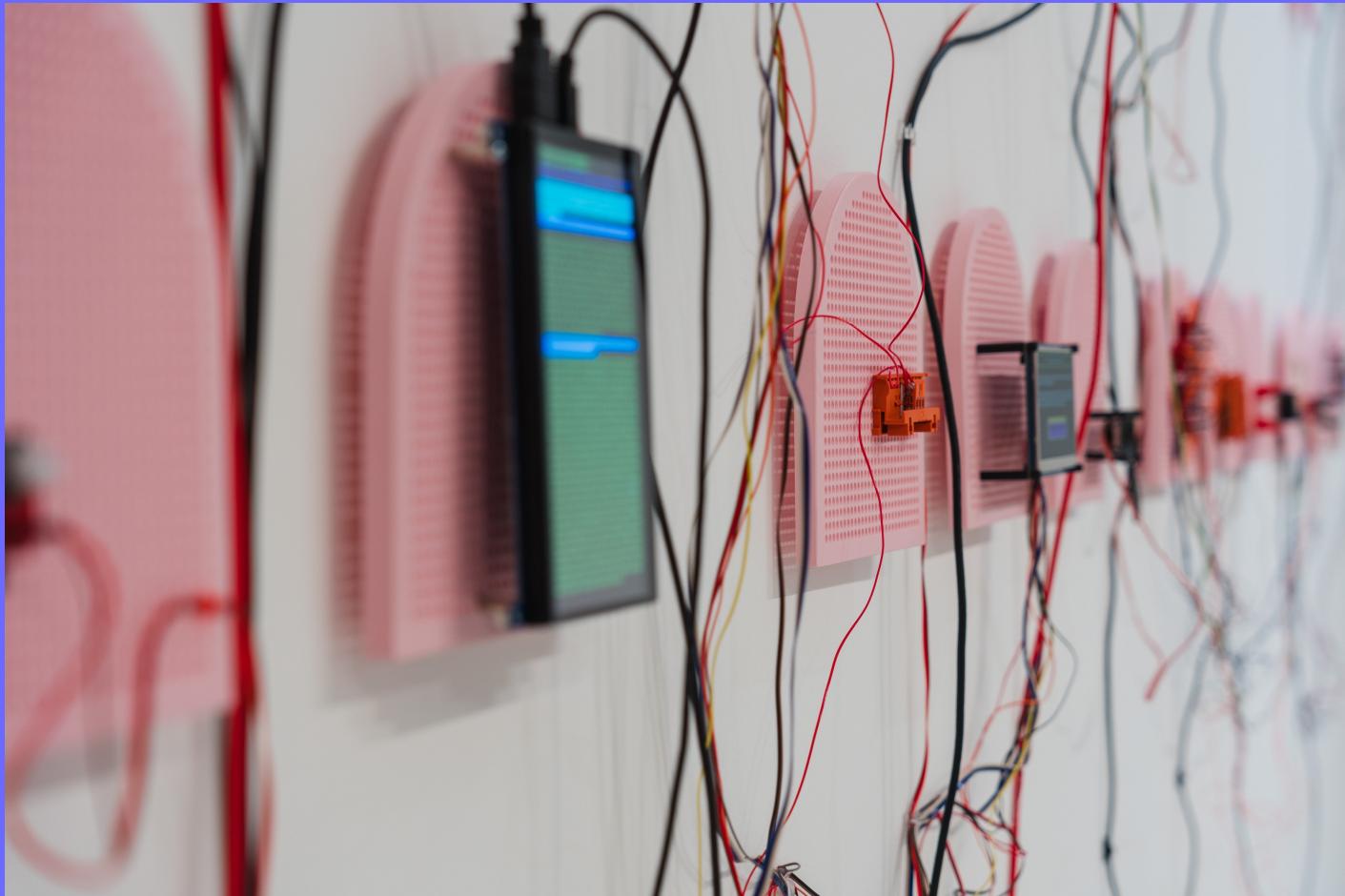
Critical Artworks Unmasking Aspects of Technology

(Self)explanatory
Open Source
Data-Backed
Revealing
DIY, RE-inspired
Playful Speculative

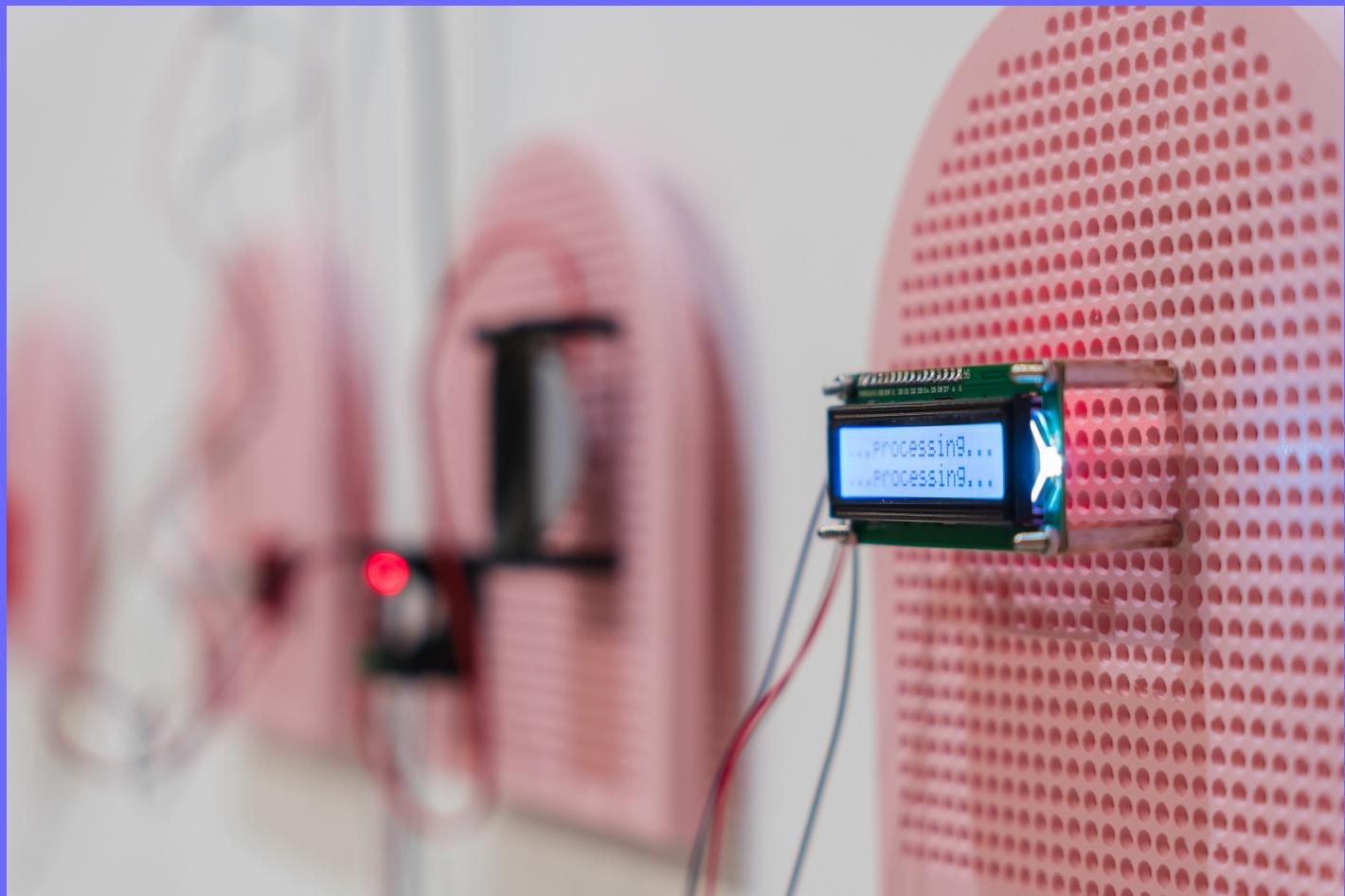
Hash Breakdown, 2024



a critical
interface
demystifying
the hashing
algorithm
SHA-256



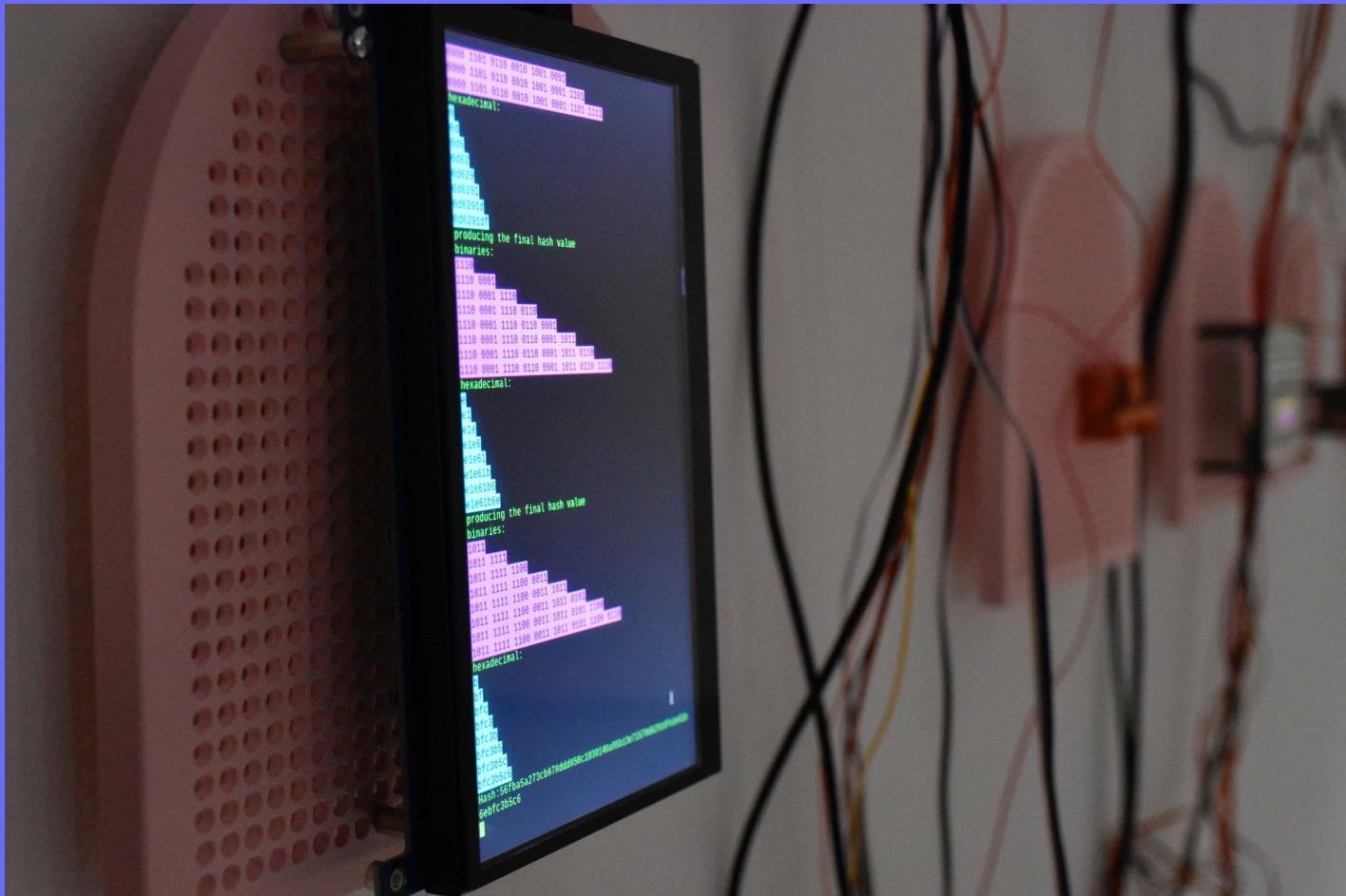
autonomous
system
explaining the
process of
how a hash is
created



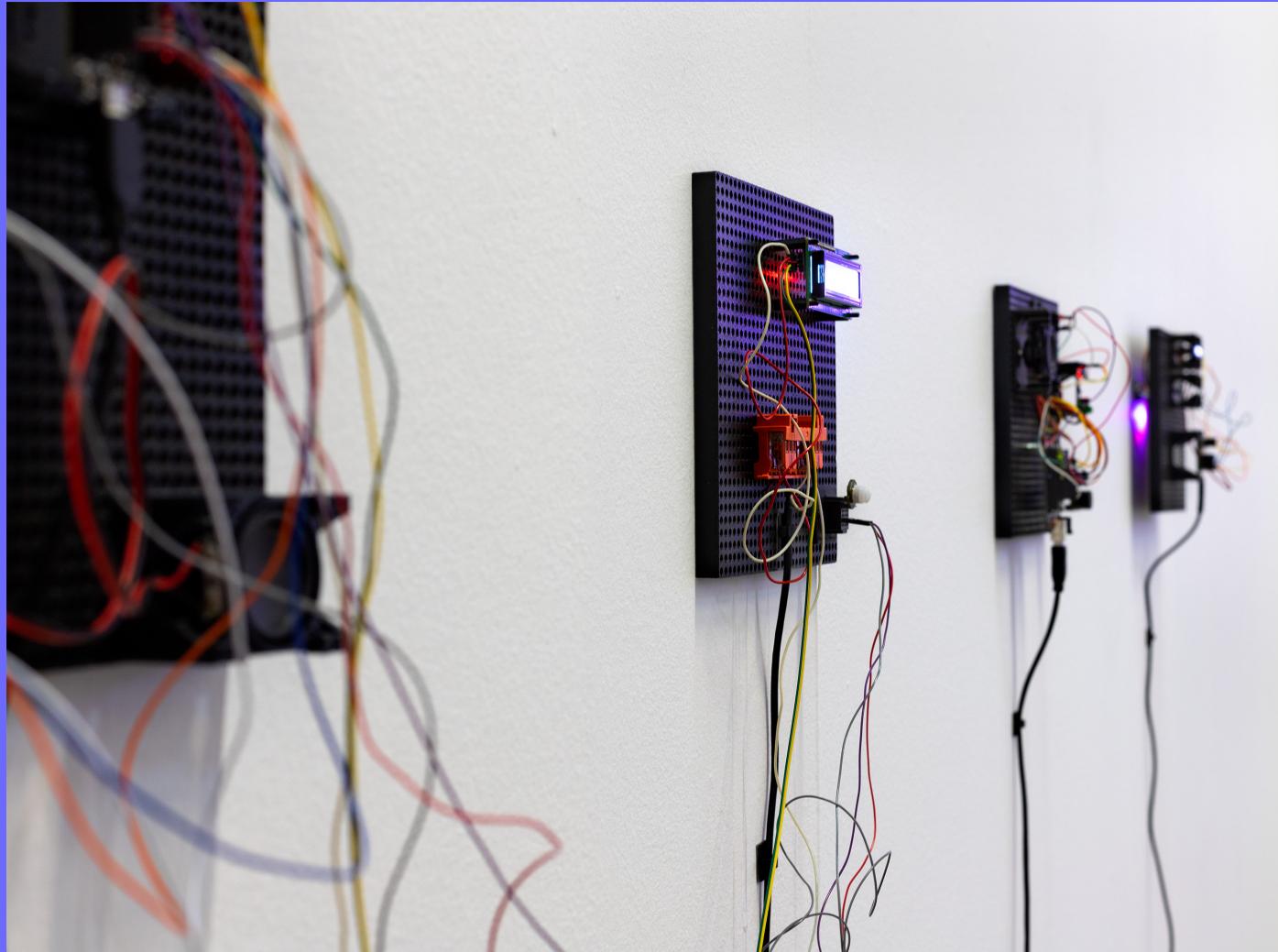
slowed-down
version of
SHA-256 with
a detailed
breakdown of
the encryption



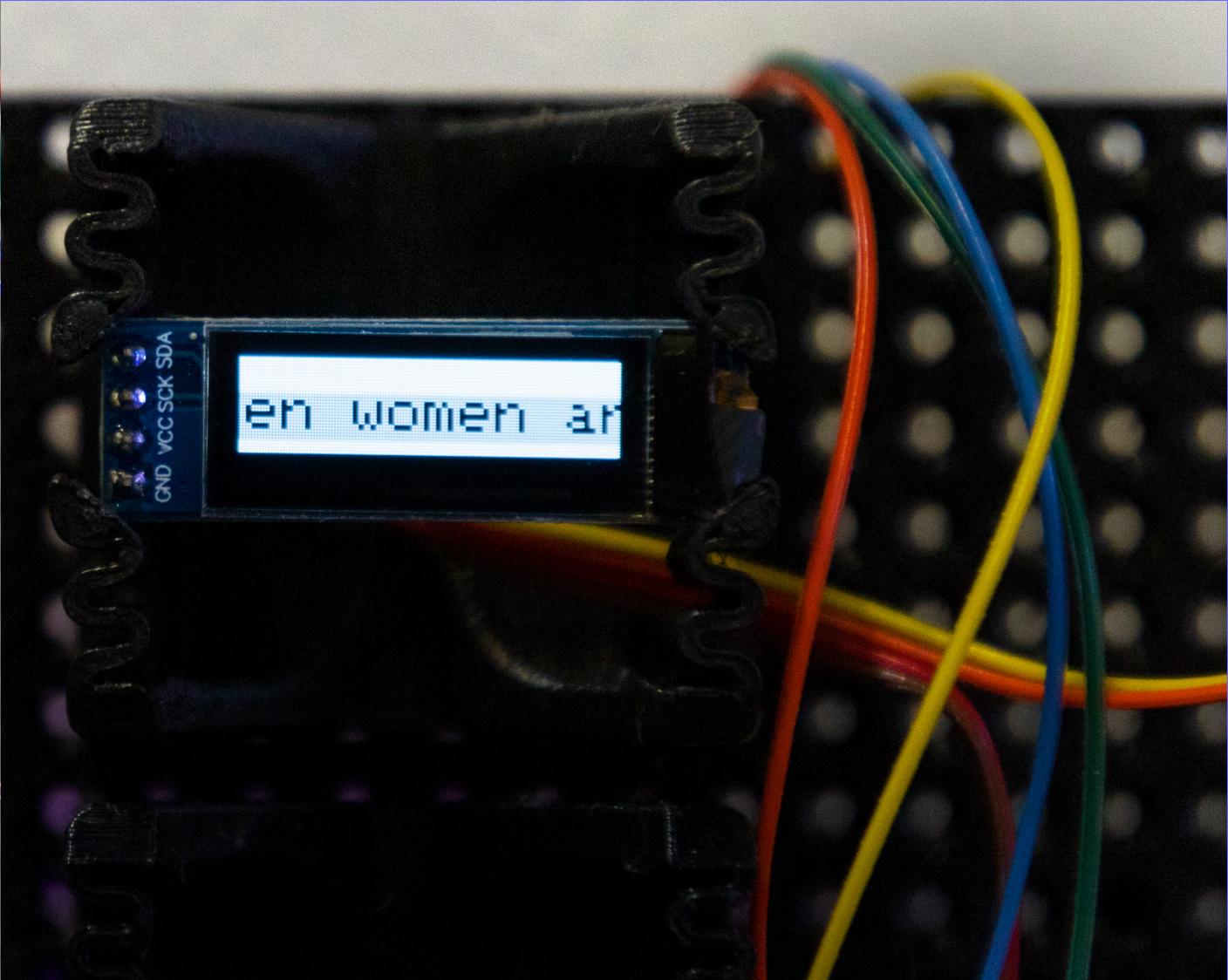
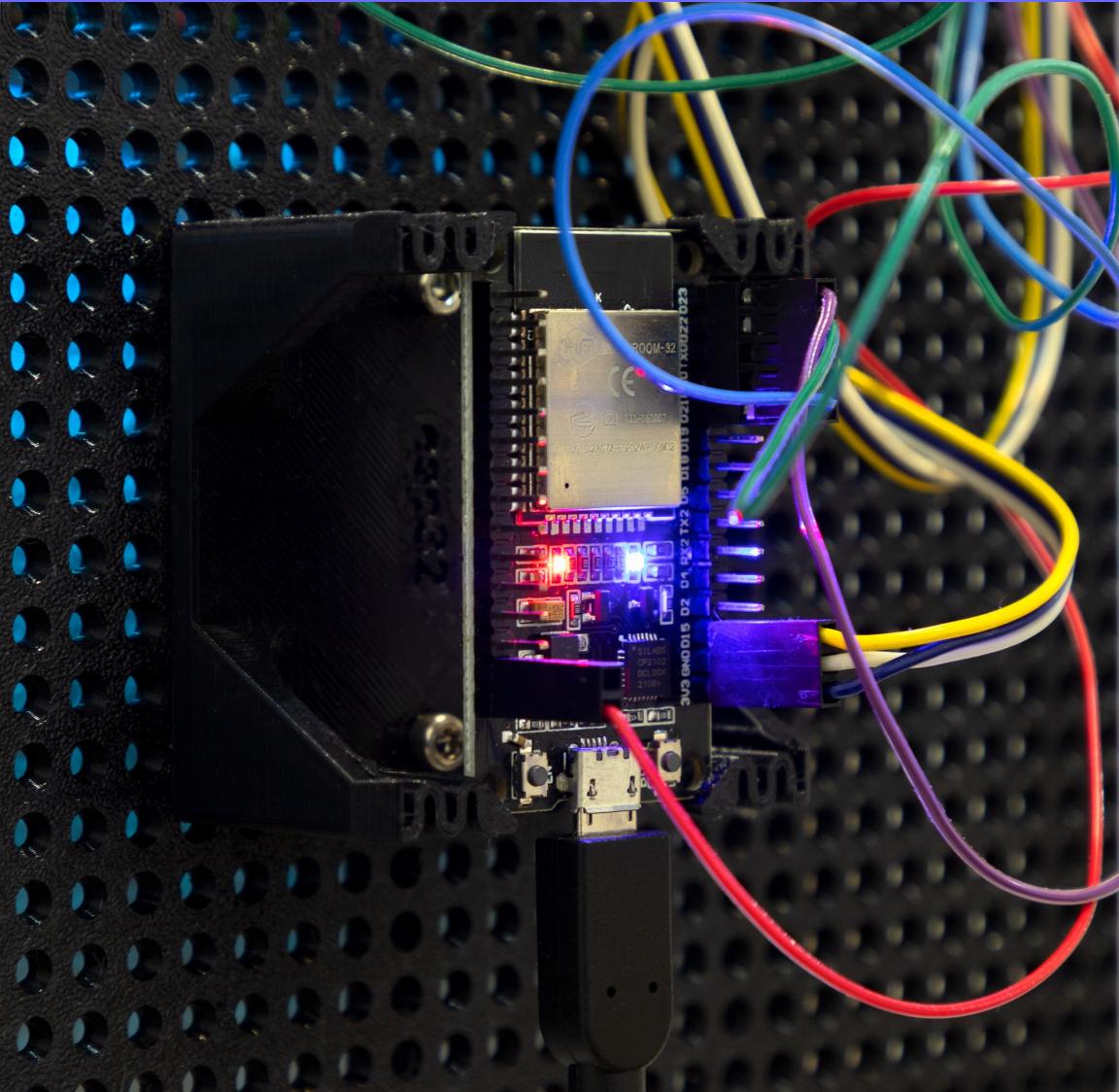
critique
towards the
mystifying,
elitist,
masculine
narratives

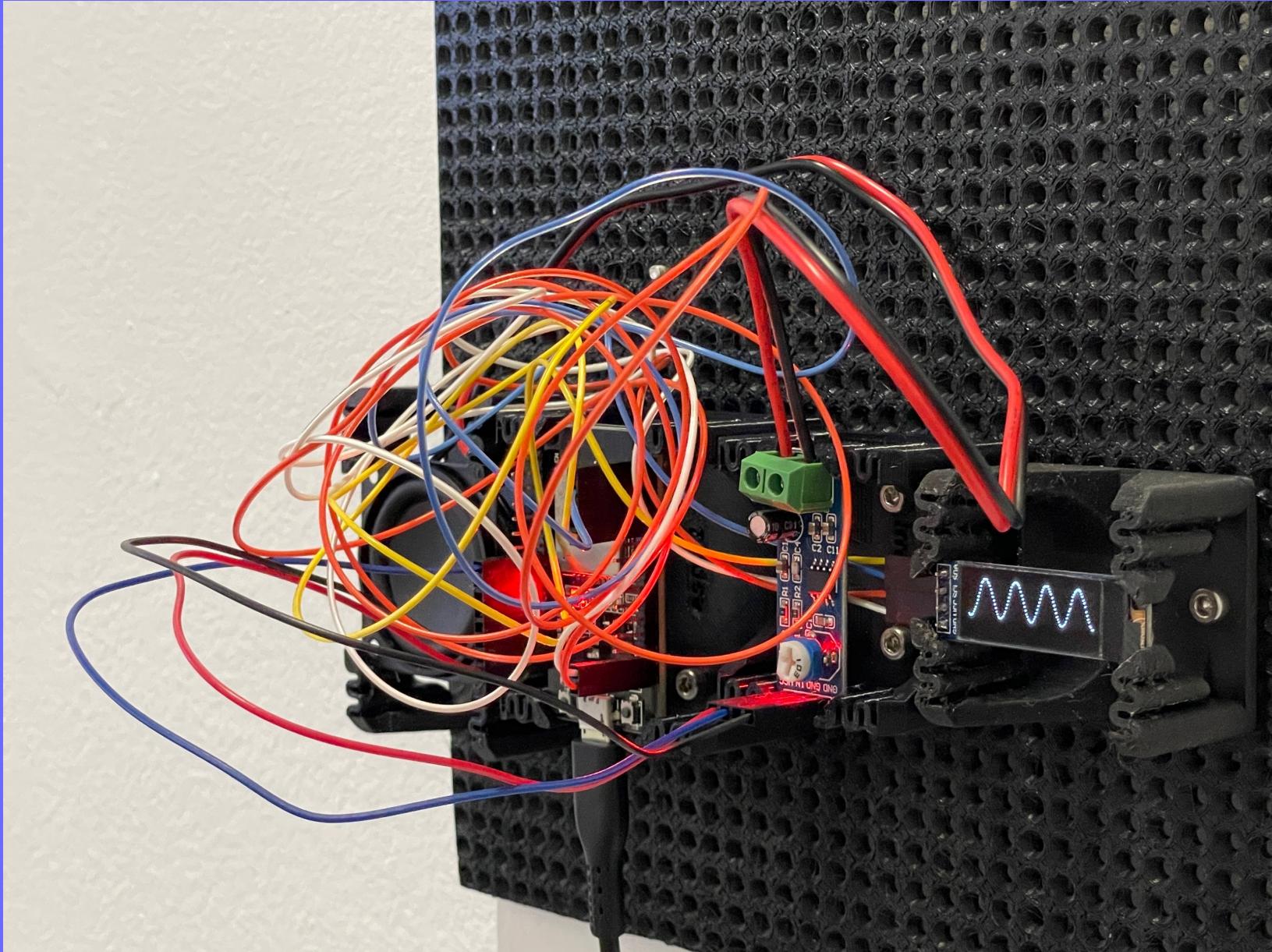


Conversatorio, 2023



open hardware
feminist devices
for representation
of gender
violence-related
data

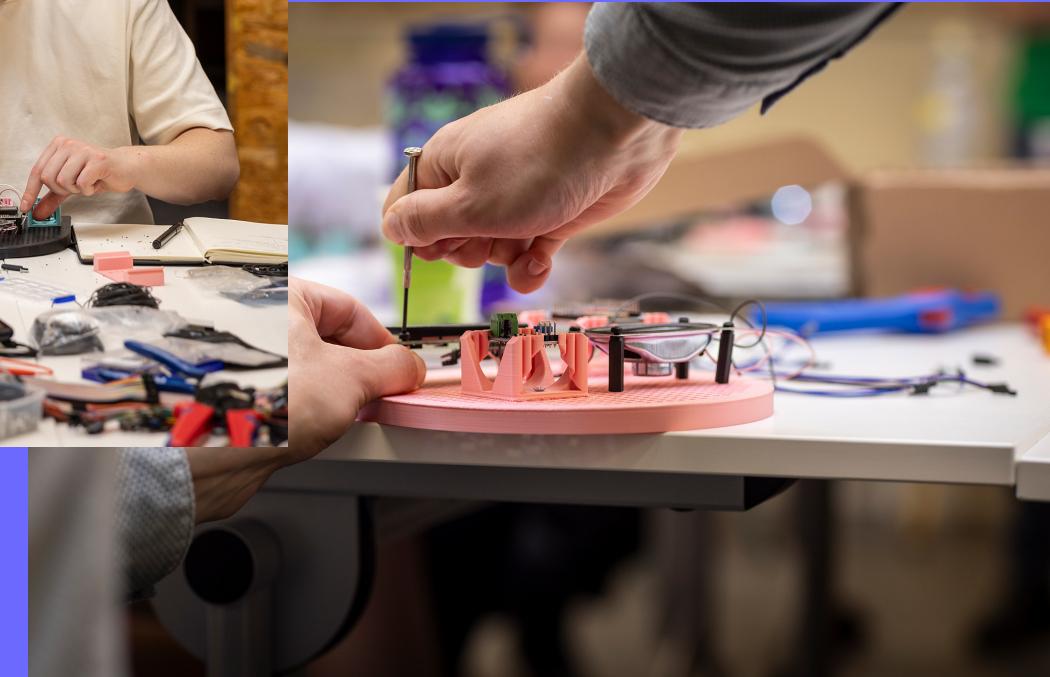
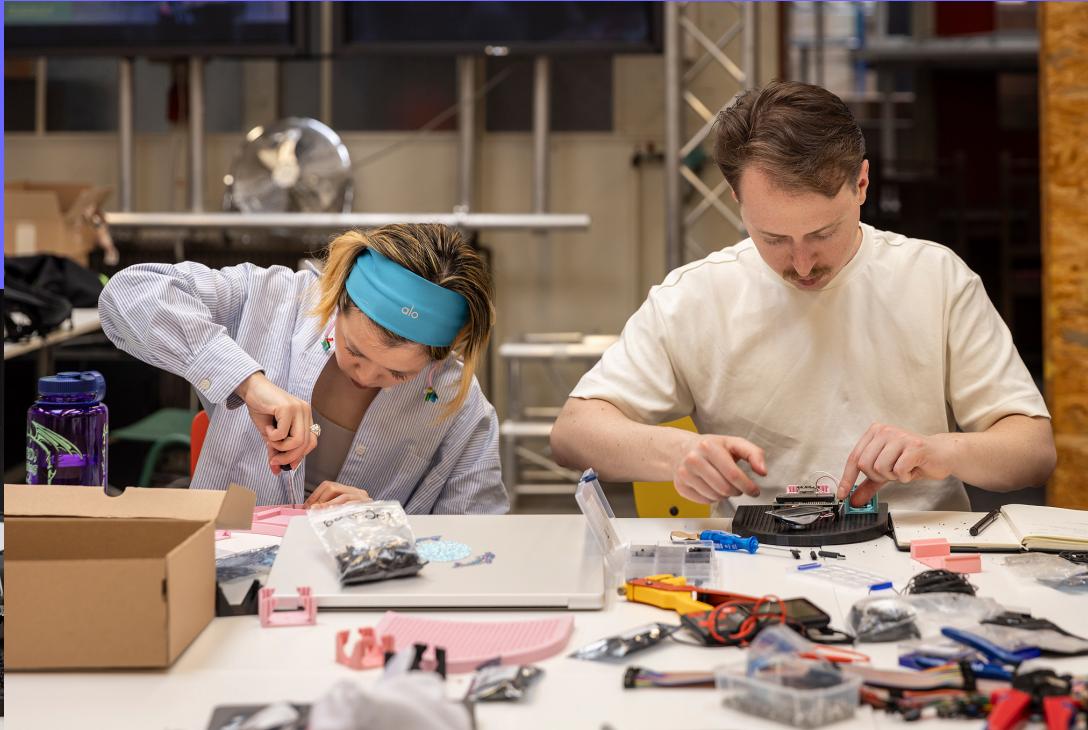
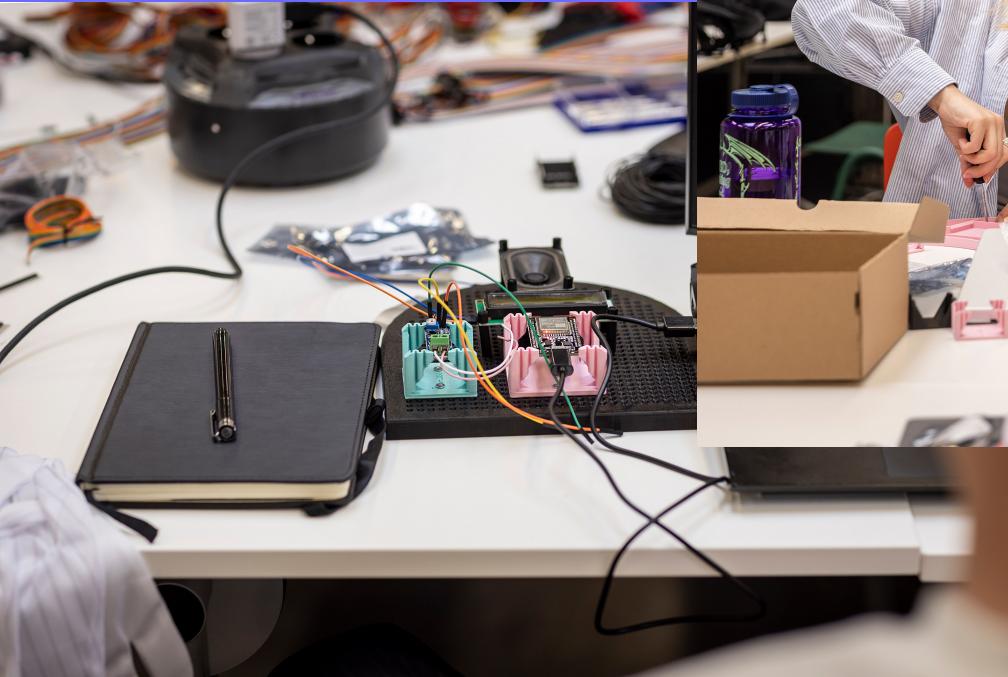




each board is coded so that it visually or sonically represents the data

<https://github.com/silviabinda/conversatorio>

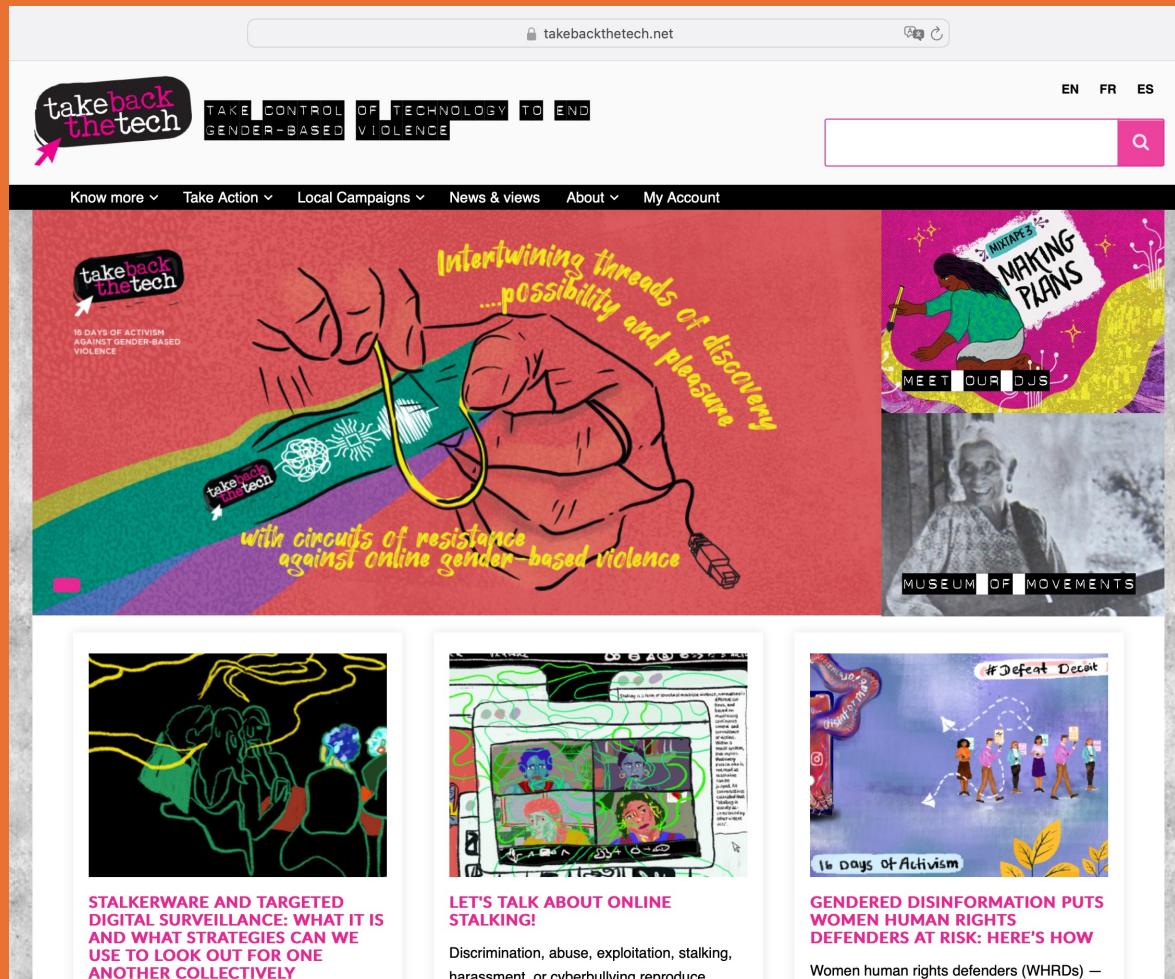
Workshop



Collaborative Networks Focused on Gender, Art & Tech

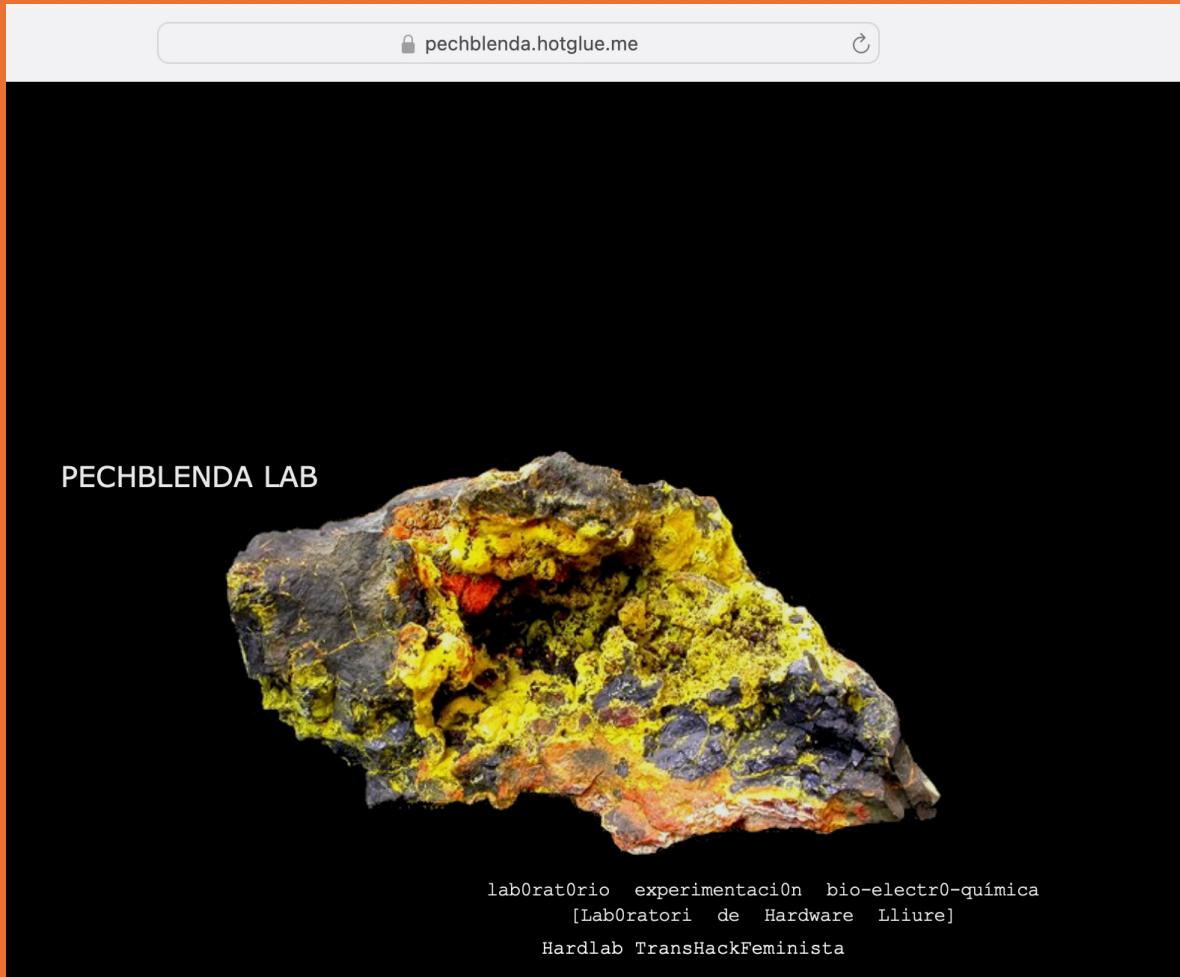
Decentralized
Trans-disciplinary
Cross-generational
Open, Inclusive
Online and Offline
Fun

Take Back the Tech (since 2006)



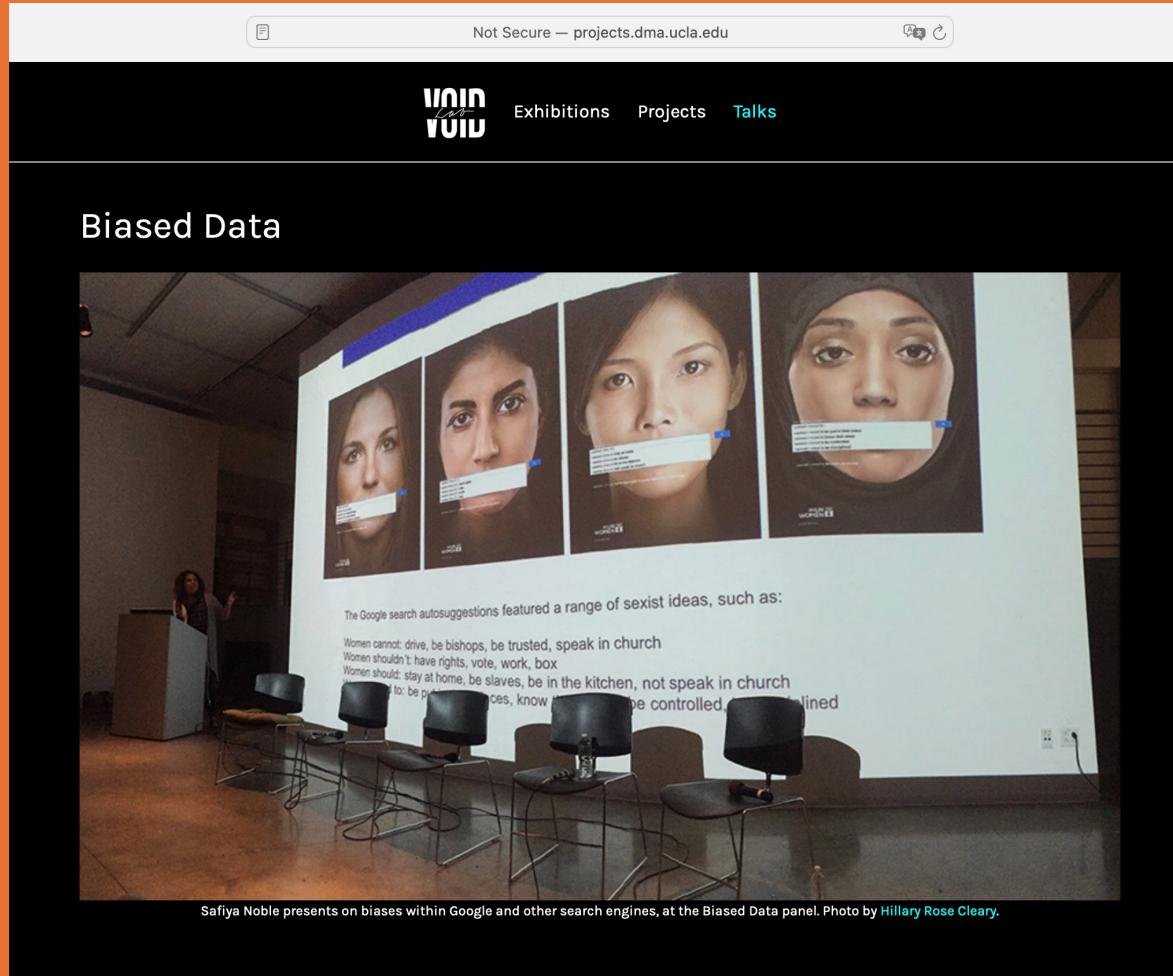
A global, collaborative campaign project that highlights the problem of tech-related violence against women

Pechblenda



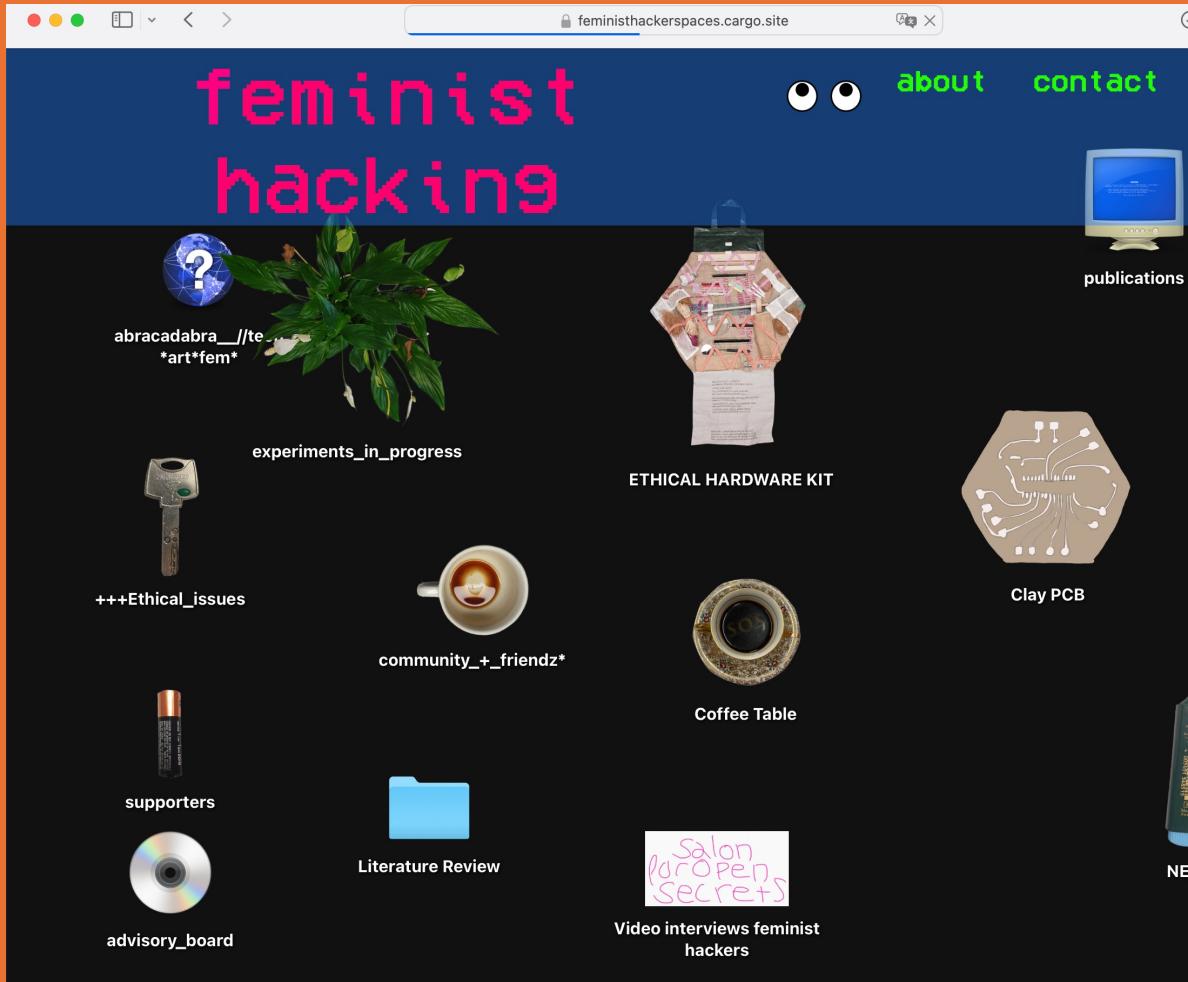
A non-patriarchal
TransHackFeminist
space where free
knowledge springs
from raw
experimentation and
self-education

voidLab (2015 – 2017)



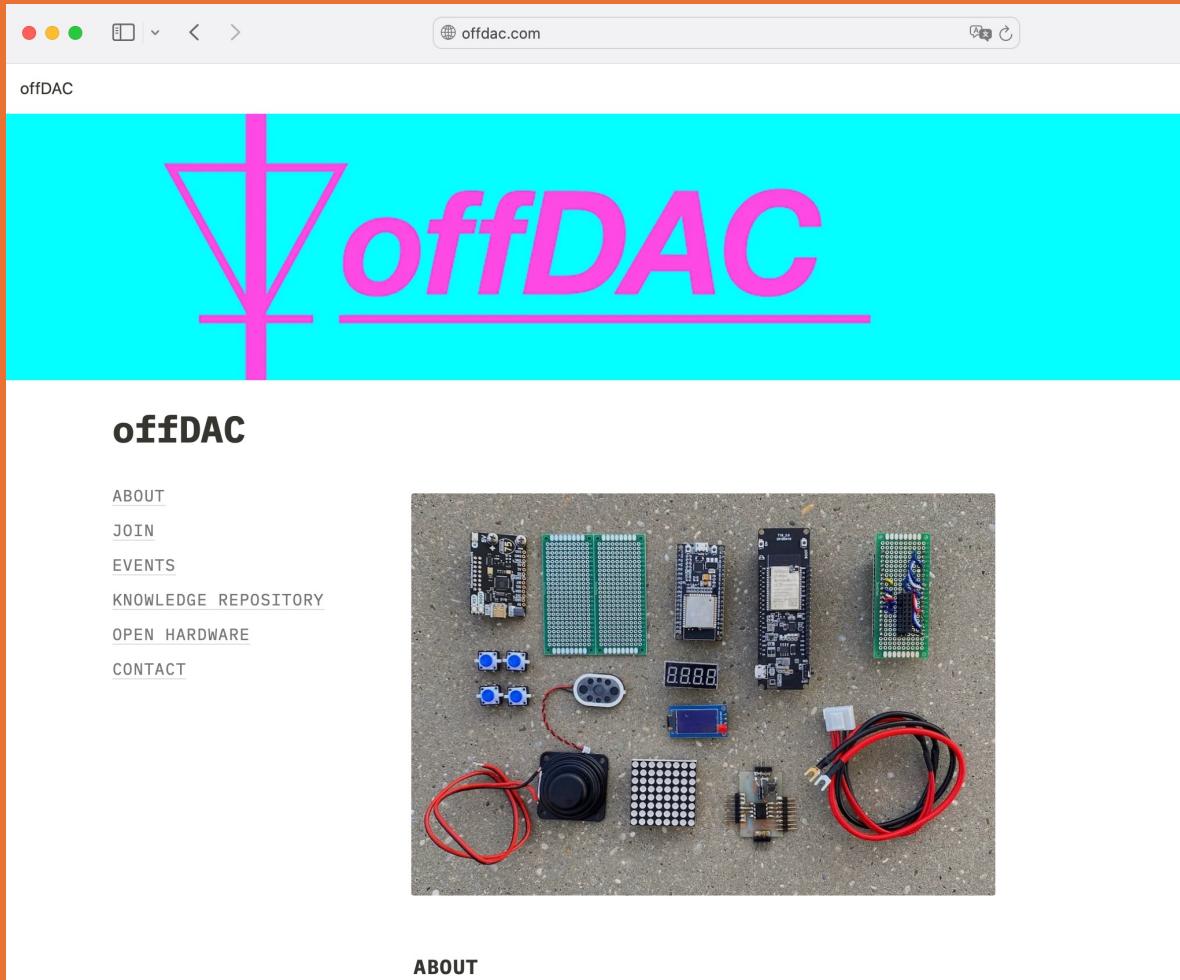
An intersectional feminist collective for women, non-binary, gender nonconforming, trans and queer people to express individual identities through art and technology

Feminist Hacking



An international art-based research project, which proposes a strategy and method for empathic, eco-sentient, de-colonial and anti-racist action in the field of art, science and technology

offDAC



An offline & online feminist decentralized artistic community exploring the intersection of feminism, art and technology through digital and analogue creation

Reclaiming Technology Sessions



Reclaiming Technology Sessions

RECLAIMING TECHNOLOGY



Conclusion

1. History shows a very close bond between women and technology (computing, electronics)
2. Suggested principles of reclaiming:
criticise, scrutinise, be curious, open up, share, learn, teach, use technology for play, fun, creation
3. Need for creation of and participation in collaborative networks to resist the powers

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Thank You



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