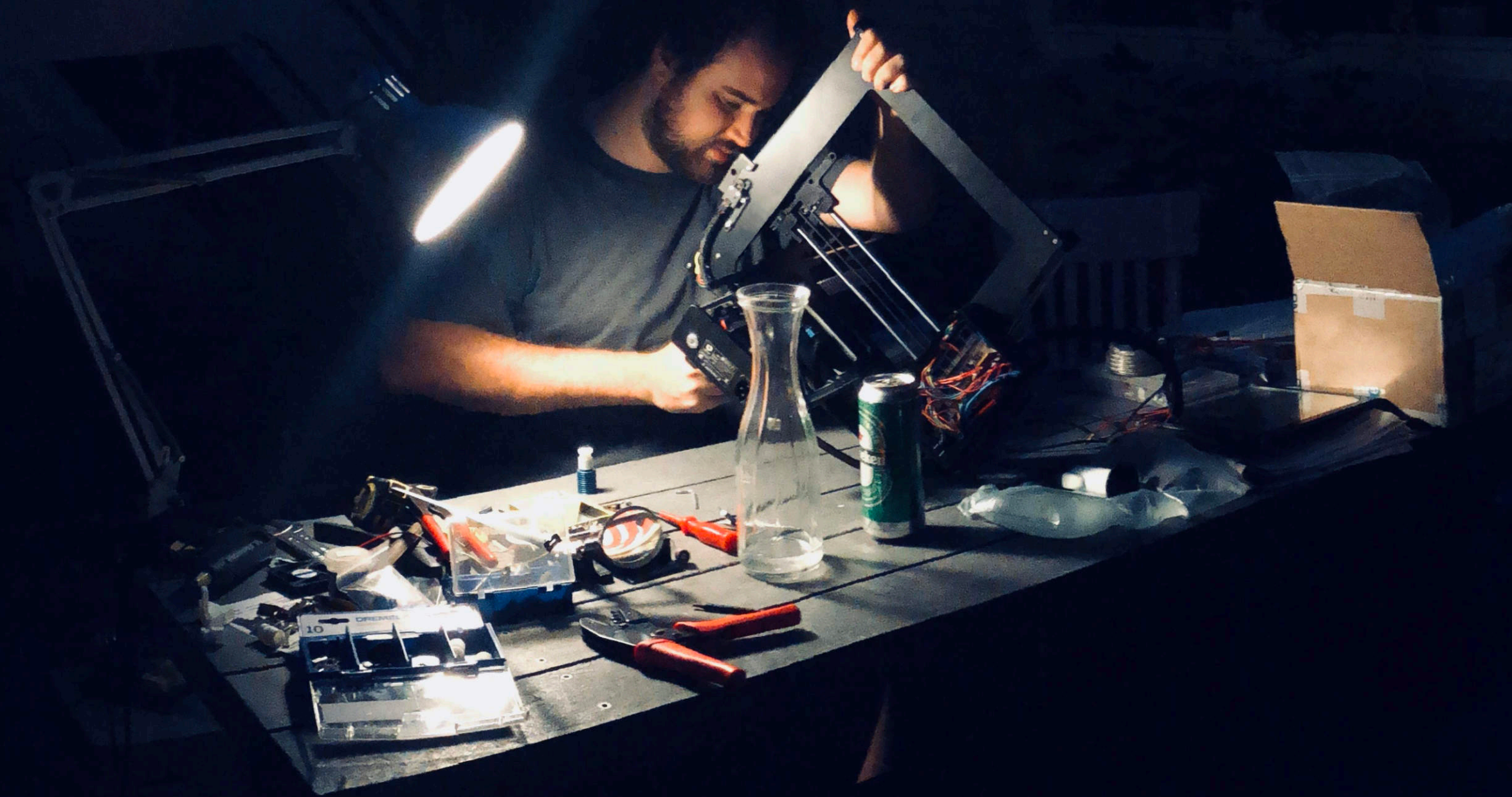


HELLO!

I'm Adriaan, a designer, creative technologist, educator, maker, and critical thinker.
Nice to meet you!



ABOUT ME

I am a creative technologist and designer with experience in practice and teaching. My focus is on designing multi-sensory experiences that combine physical, analog and digital elements. By stimulating people's curiosity, I aim to strengthen their creative potential as well as their sense of agency and social responsibility.

On the following pages you will find a small selection of my work to give you an impression of my approach and interests.

METAPHORIC INTERFACES

Transforming Data Into Knowledge

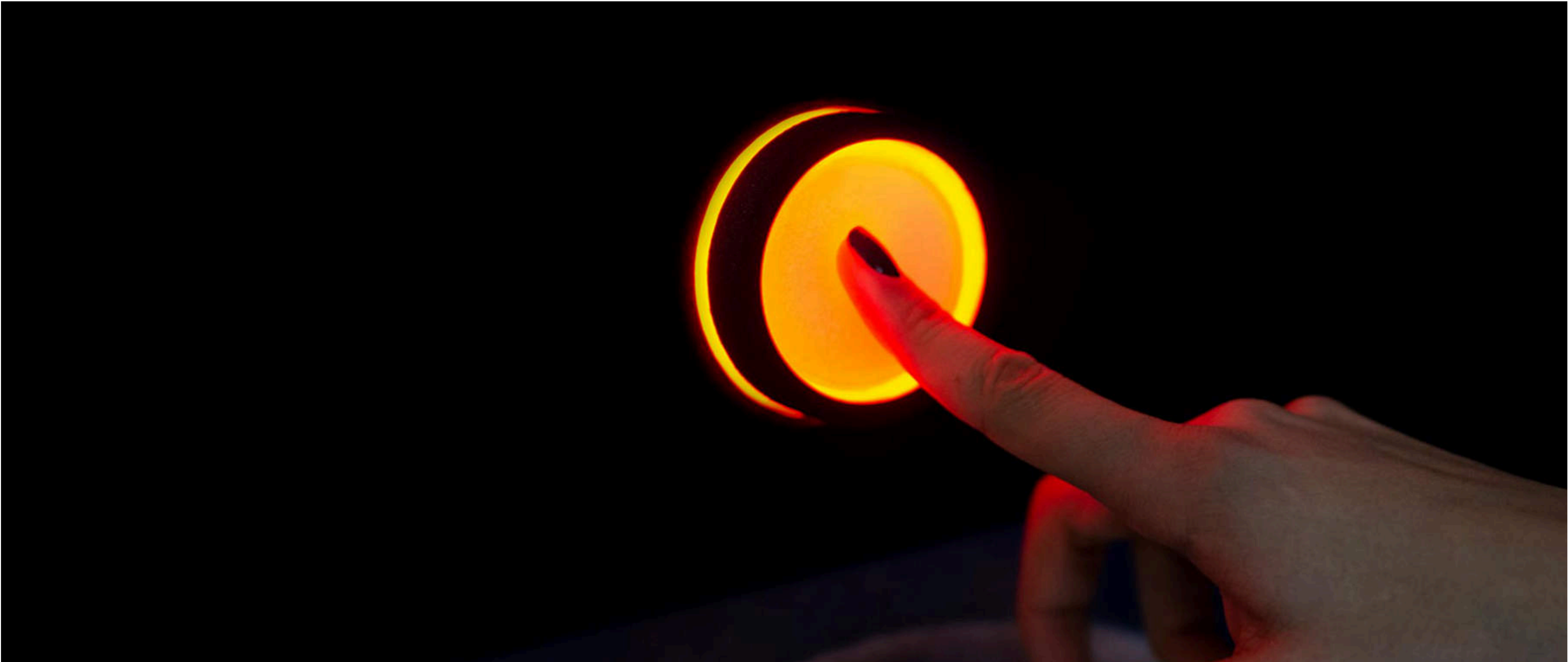
TYPE

MSc Thesis, 2019

TOPICS

Natural User Interfaces, Multimodality, Haptics, HCI

Unlocking new sensory layers for the creation of multimodal interface metaphors that permit users to access relevant information effortlessly and in a targeted manner.

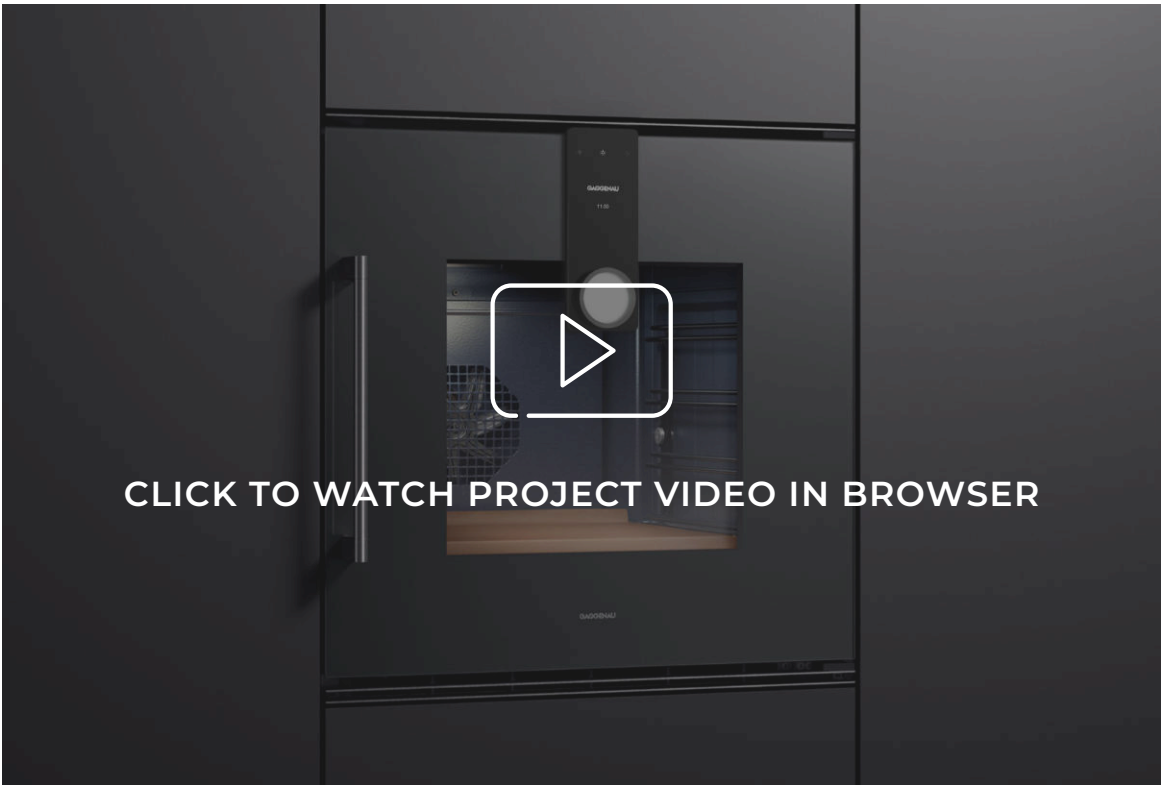


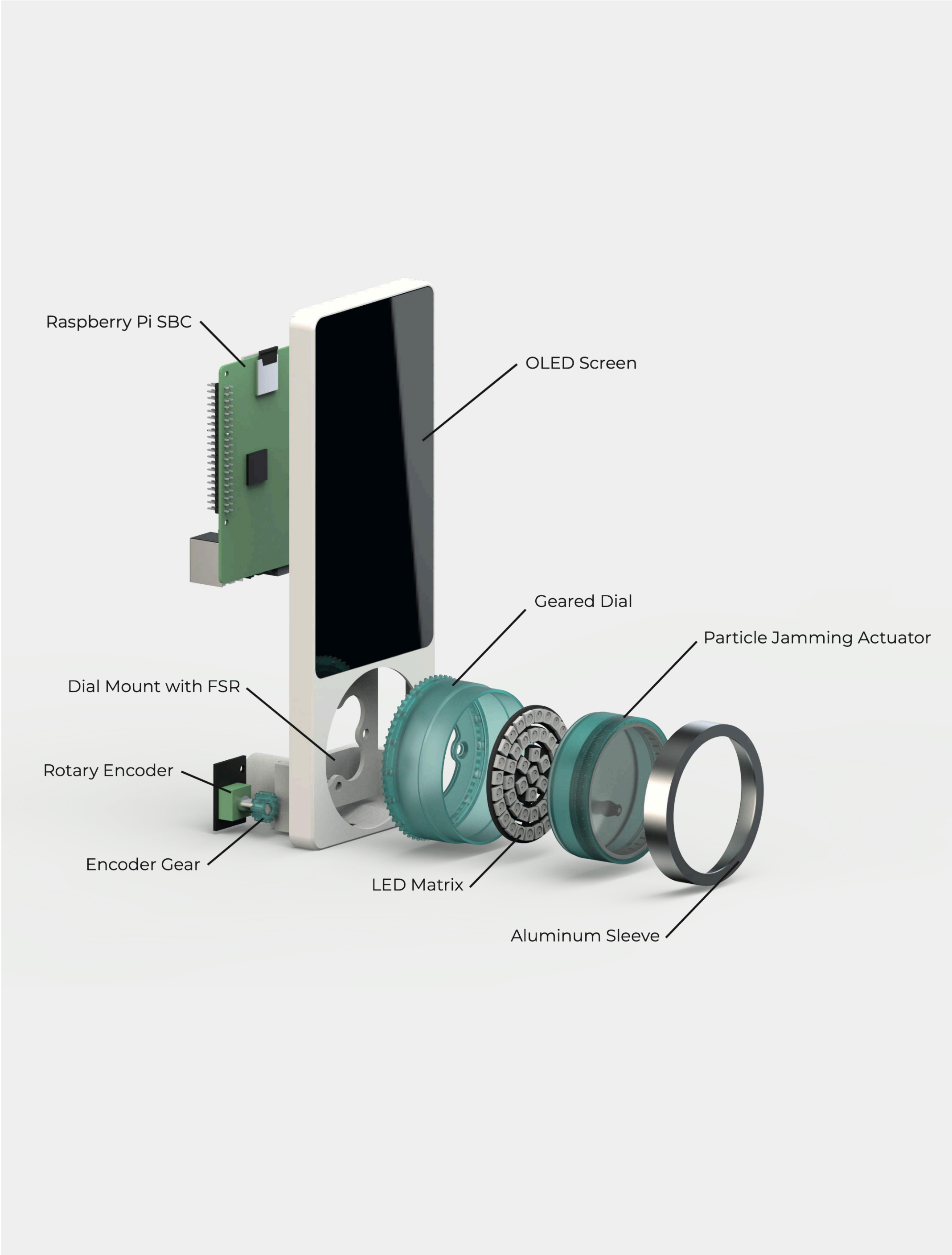
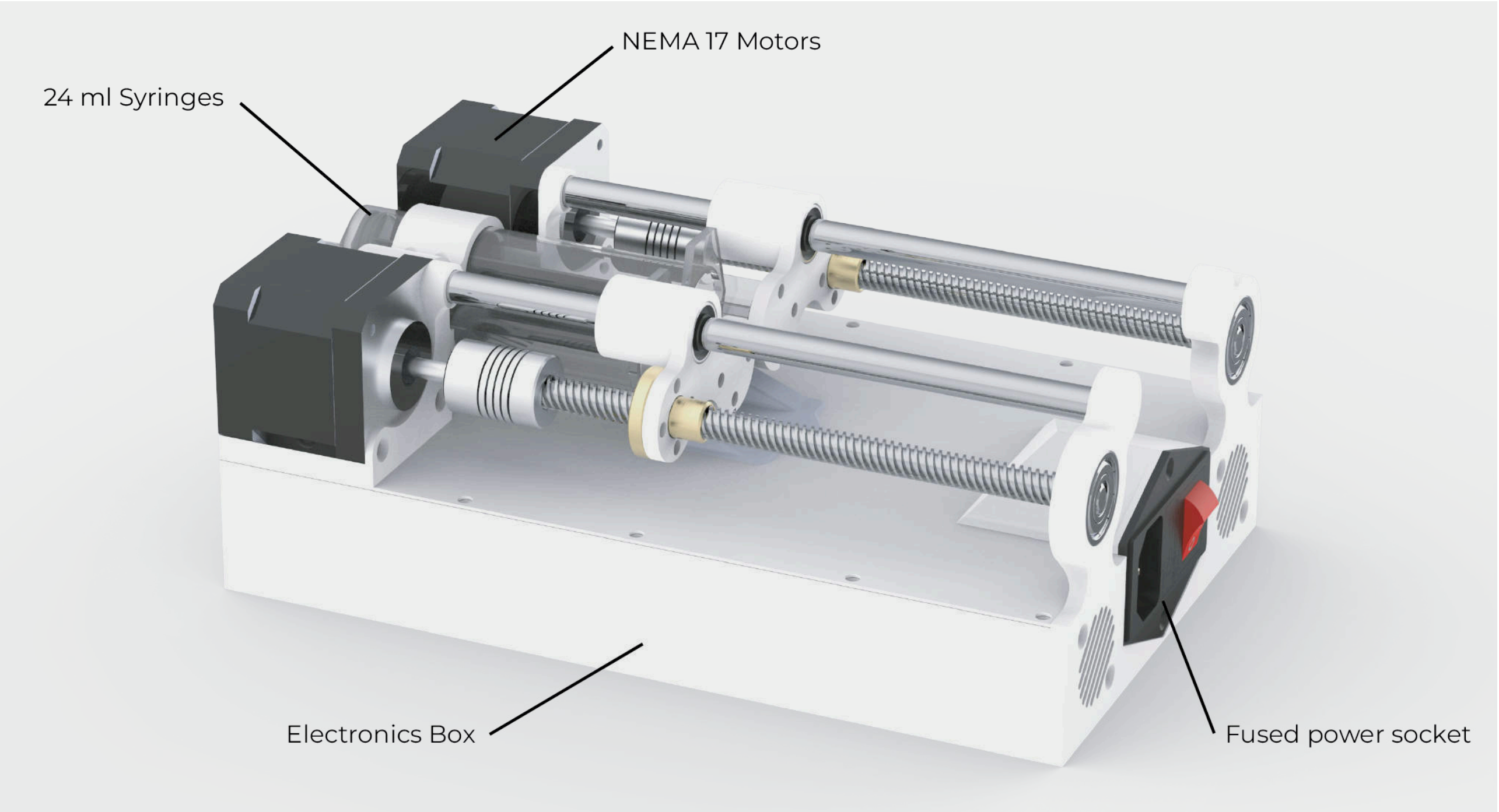
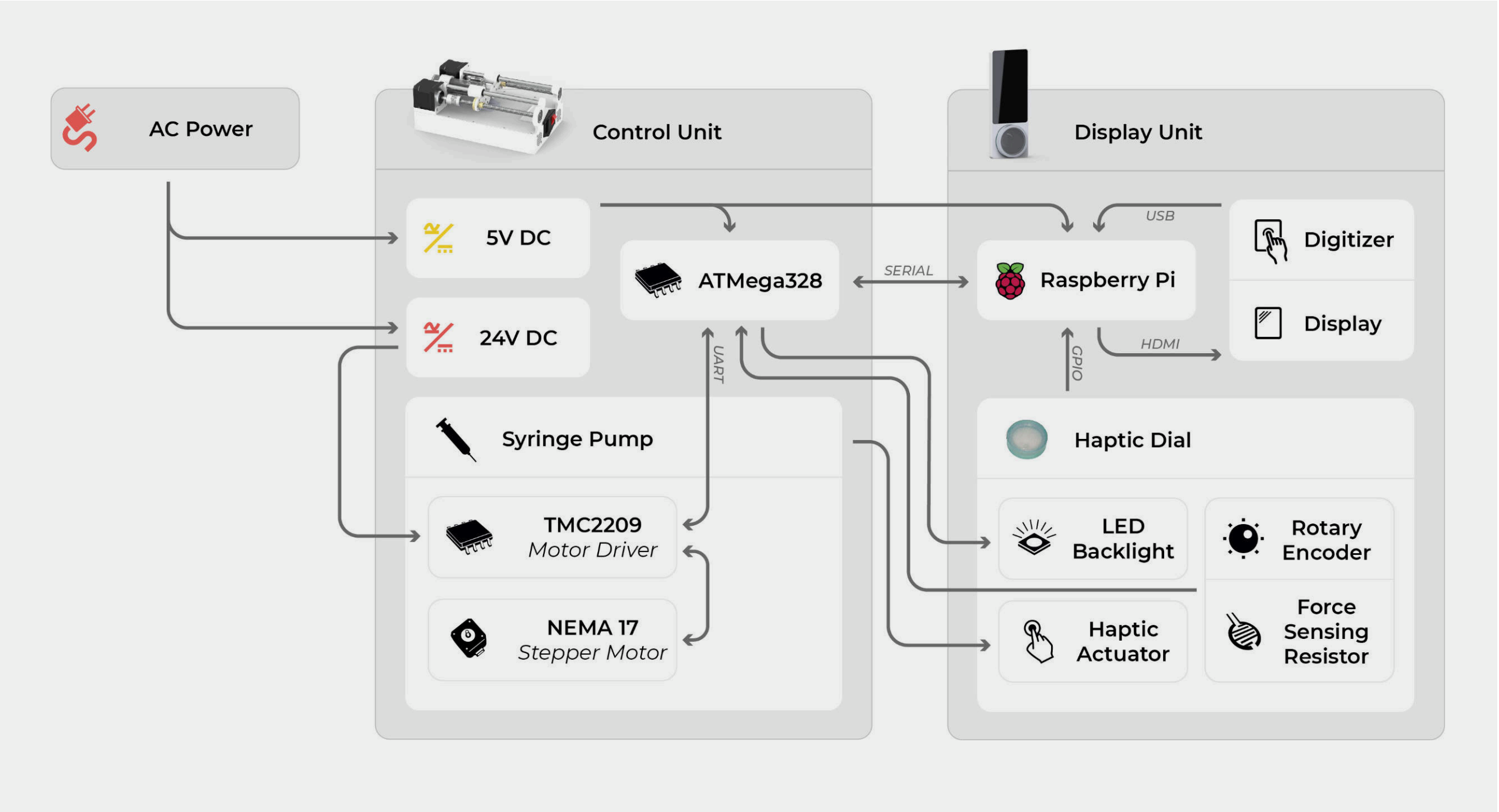
OBJECTIVE

Development of a new type of user interface that combines the flexibility of digital technology with the aesthetic qualities and advantages of analog technology in terms of autonomous and intuitive use.

OUTCOME

A multimodal dial that physically tailors digital information to its context of use in the kitchen. Advanced information, such as temperature distribution and humidity, can be explored spatially and understood sensorially.





ROLES

*Research & Development, Design,
Implementation (Proof-of-Concept)*

KEY TECHNOLOGIES

*Particle Jamming, Embedded Electronics,
HTML/CSS/JavaScript, Node.js*

INSTITUTION

*Delft University of Technology,
The Netherlands*

PARTNER

Gaggenau Home Appliances GmbH





CONNECTED INTERACTION KIT

Introduction to Human-Computer Interactions

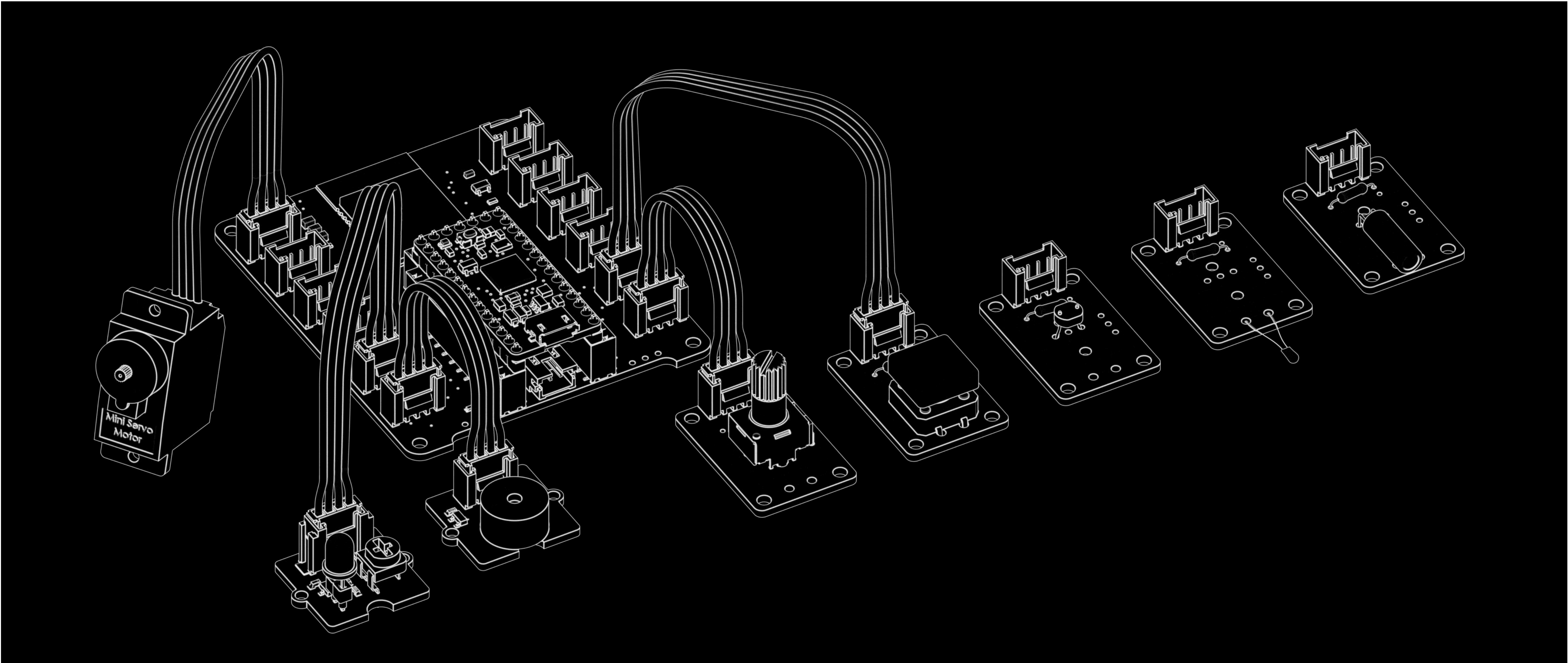
TYPE

Educational, 2021-23

TOPICS

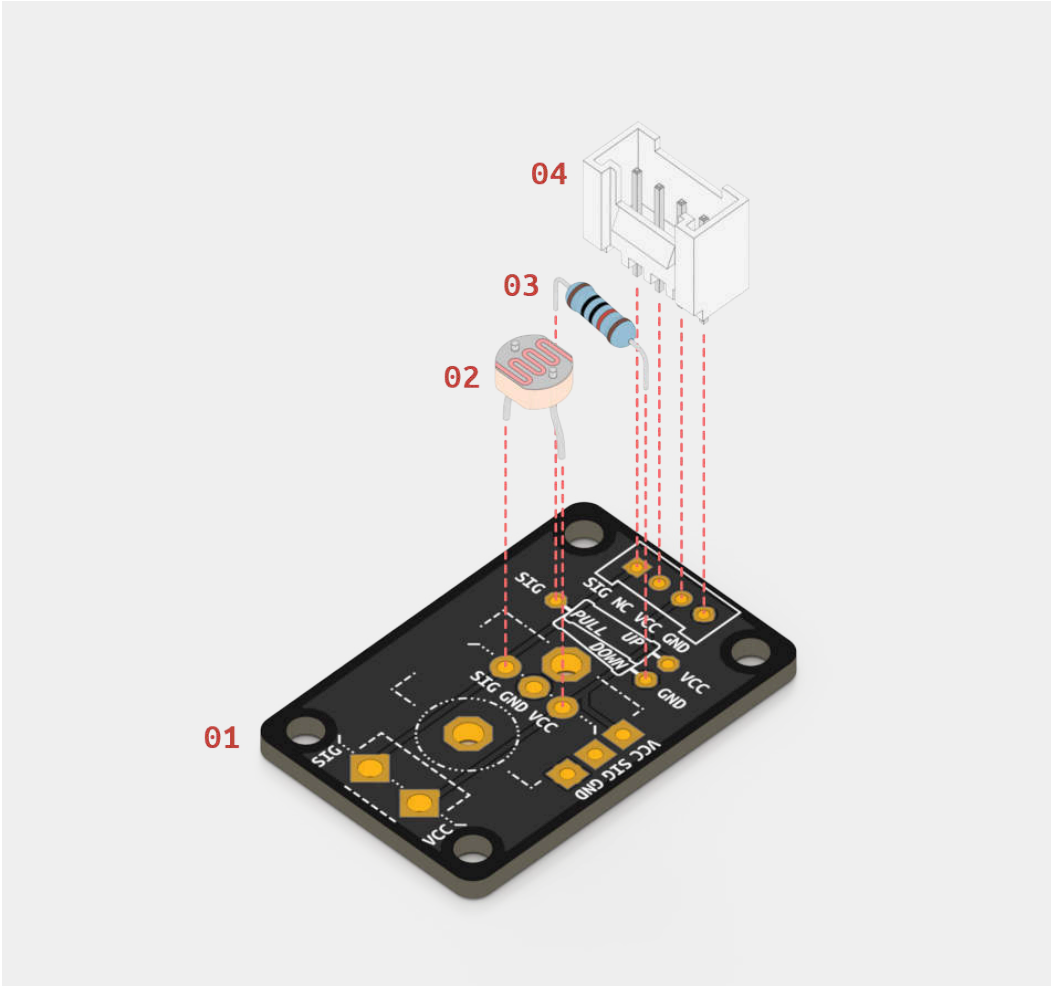
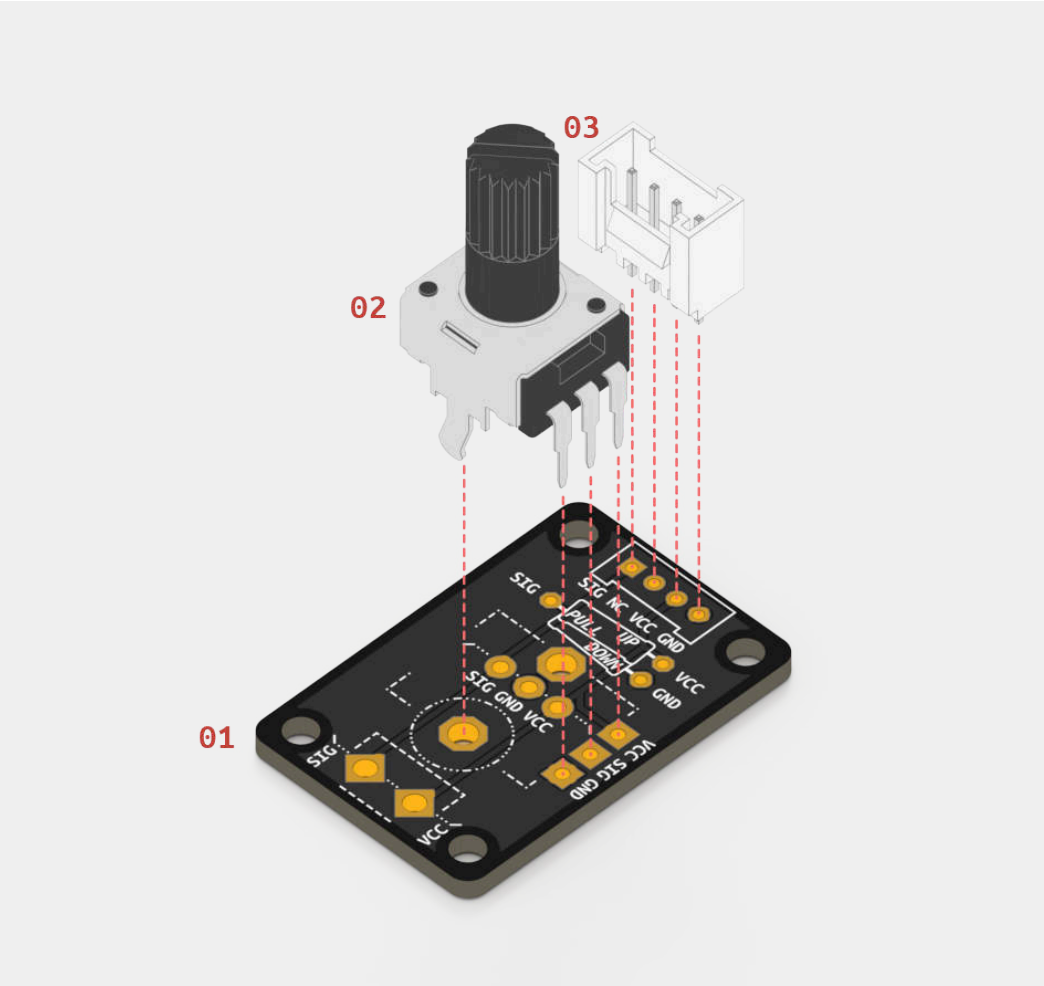
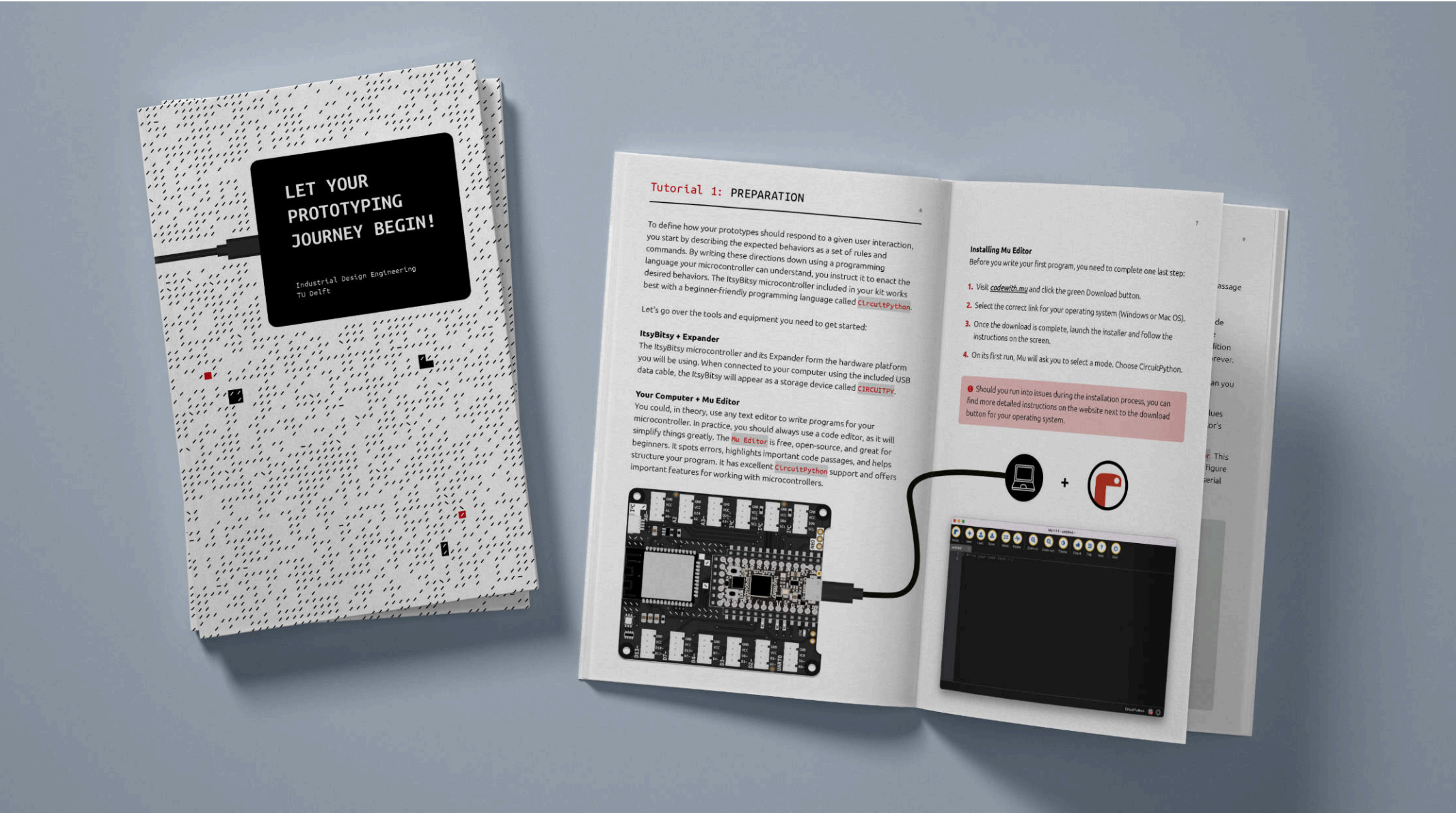
*Interactive Technology, HCI,
Physical Computing, Teaching*

A diverse and adaptable toolkit designed to encourage the creation of technology-mediated experiences in the context of design education.



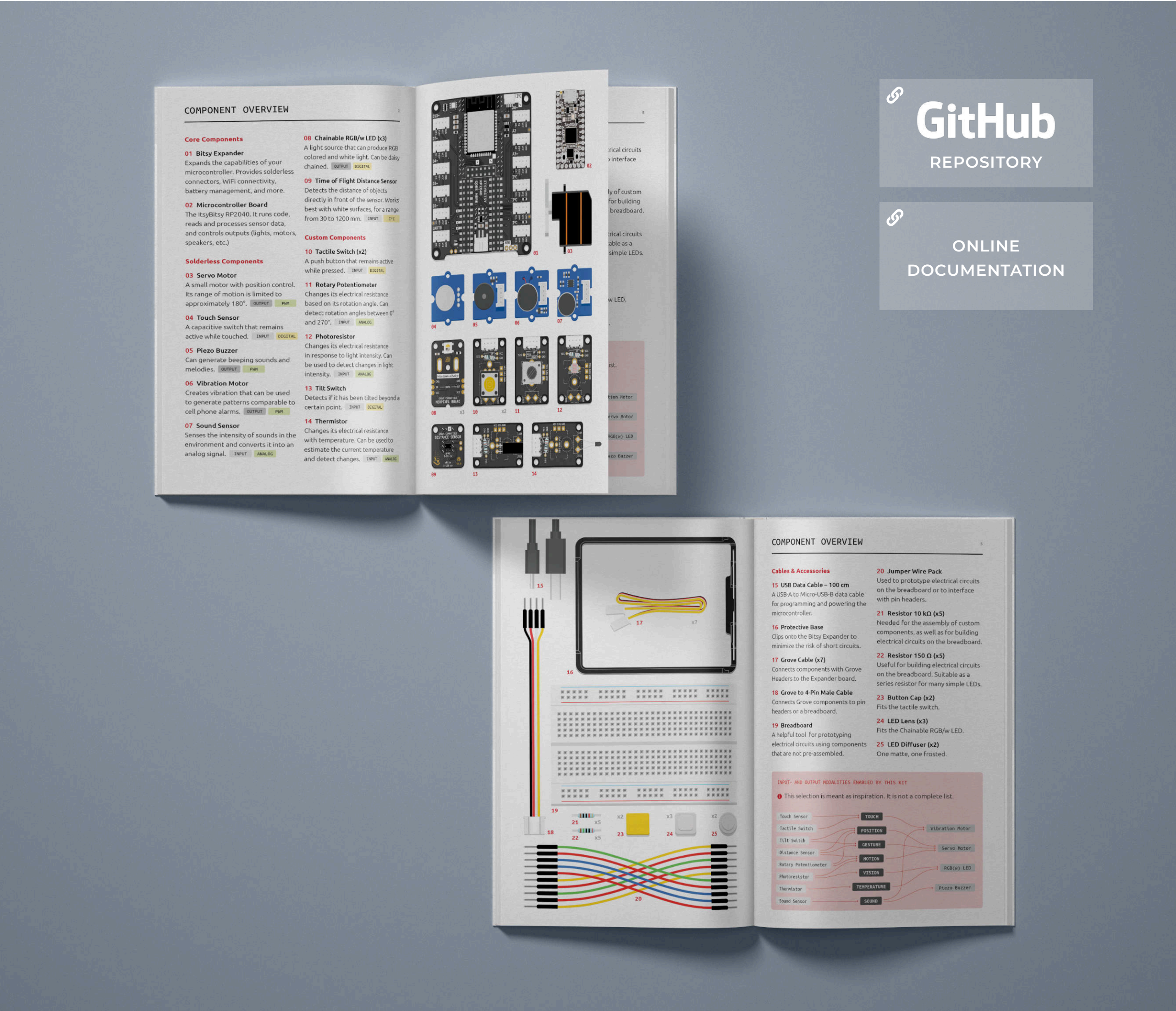
OBJECTIVE

Develop an educational platform that addresses issues identified through educational practice: Ease of use, accessibility of information, versatility, error prevention, and platform independence.



OUTCOME

An educational toolkit that provides an easy and fun gateway to creating technology-mediated experiences in the context of design education. It contains a diverse and adaptable range of tools and components designed to encourage skill development and strengthen the confidence of its users.



ROLES	CONTRIBUTIONS	INSTITUTE	DEPARTMENT
Research & Development, Design, Didactics	Hardware Design, Content Creation & Design, Teaching, Workshops, Course Work	Delft University of Technology, The Netherlands	Human-Centered Design



COMPONENT OVERVIEW

Core Components

01 Bitsy Expander

Expands the capabilities of your microcontroller. Provides solderless connectors, WiFi connectivity, battery management, and more.

02 Microcontroller Board

The ItsyBitsy RP2040. It runs code, reads and processes sensor data, and controls outputs (lights, motors, speakers, etc.)

Solderless Components

03 Servo Motor

A small motor with position control. Its range of motion is limited to approximately 180°. **OUTPUT** **PWM**

04 Touch Sensor

A capacitive switch that remains active while touched. **INPUT** **DIGITAL**

05 Piezo Buzzer

Can generate beeping sounds and melodies. **OUTPUT** **PWM**

06 Vibration Motor

Creates vibration that can be used to generate patterns comparable to cell phone alarms. **OUTPUT** **PWM**

07 Sound Sensor

Senses the intensity of sounds in the environment and converts it into an analog signal. **INPUT** **ANALOG**

08 Chainable RGB/w LED (x3)

A light source that can produce RGB colored and white light. Can be daisy chained. **OUTPUT** **DIGITAL**

09 Time of Flight Distance Sensor

Detects the distance of objects directly in front of the sensor. Works best with white surfaces, for a range from 30 to 1200 mm. **INPUT** **1°C**

Custom Components

10 Tactile Switch (x2)

A push button that remains active while pressed. **INPUT** **DIGITAL**

11 Rotary Potentiometer

Changes its electrical resistance based on its rotation angle. Can detect rotation angles between 0° and 270°. **INPUT** **ANALOG**

12 Photoresistor

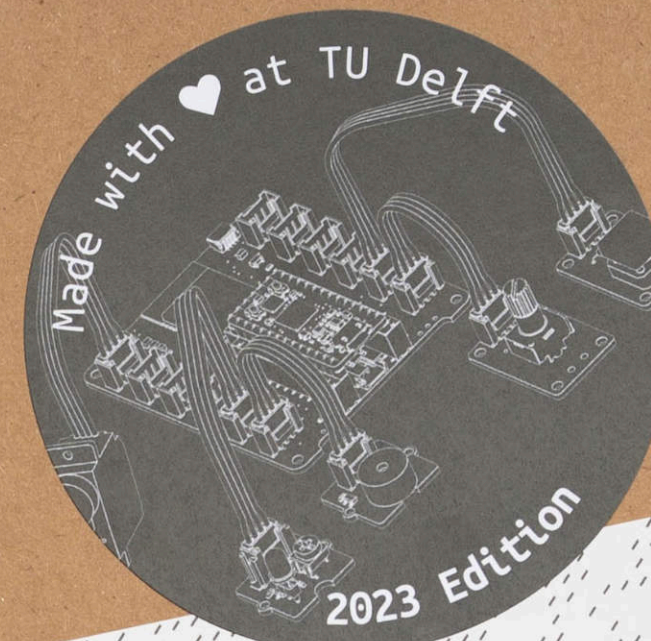
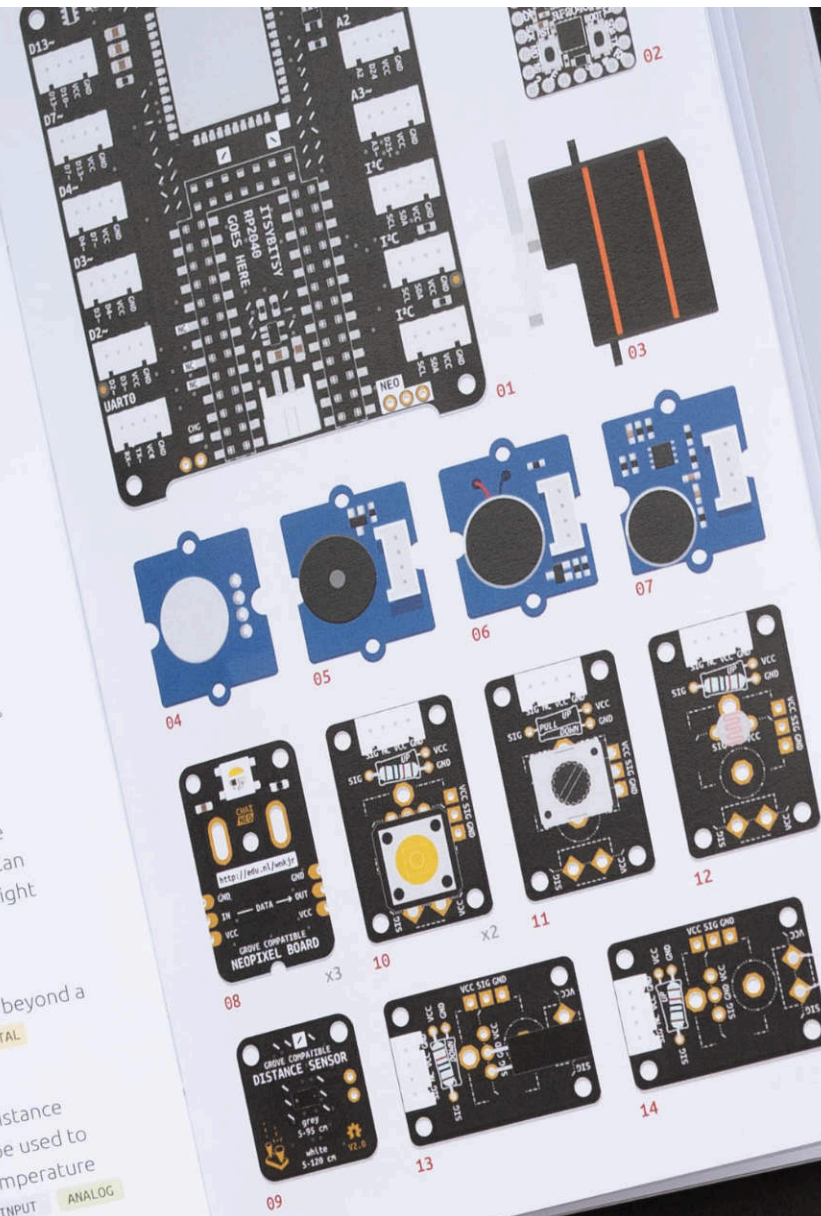
Changes its electrical resistance in response to light intensity. Can be used to detect changes in light intensity. **INPUT** **ANALOG**

13 Tilt Switch

Detects if it has been tilted beyond a certain point. **INPUT** **DIGITAL**

14 Thermistor

Changes its electrical resistance with temperature. Can be used to estimate the current temperature and detect changes. **INPUT** **ANALOG**



CONNECTED INTERACTION KIT

NAME _____

STUDENT NUMBER _____

BOOKLET
CABLES & ACCESSORIES



This QR code is unique and will be linked to the NetID of this kit's owner. It authorizes the connection of up to 3 devices to the campus-wide "TUD-facility" network. Instructions can be found in the booklet.

IN/VISIBLE

Reclaiming Digital Agency

TYPE

Art Project, 2021

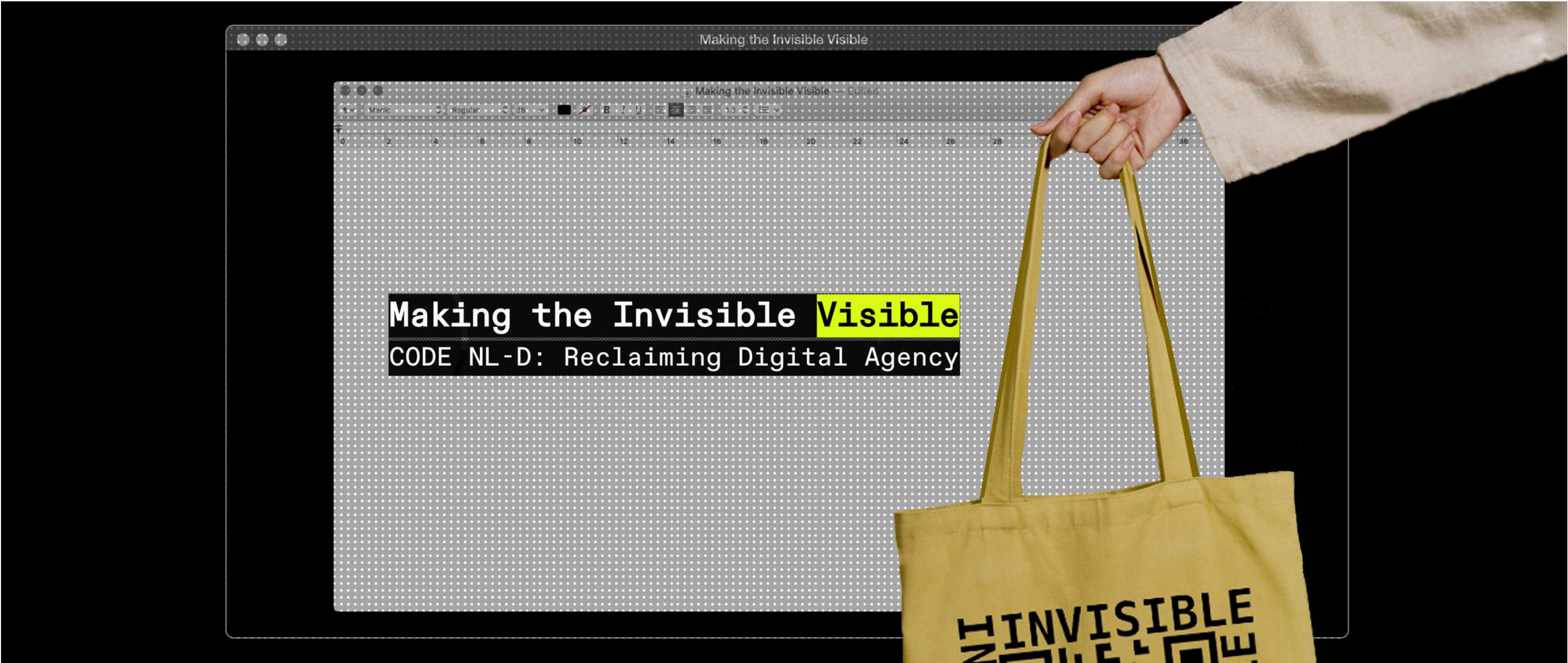
TOPICS

Digital Agency, Public Awareness, Privacy, Spatial Art Project

This performance raises awareness about online security and privacy by making tracking mechanisms visible and spatial. It challenges participants to question how they share information and what should remain private.

TEAM

Alistair Alexander, Adriaan Bernstein, Alice Dallinga, Sanne van Deijl, Jennifer Jiang



OBJECTIVE

Provide a compelling narrative to activate, sensitize, and politicize an audience about the issue of safeguarding individual digital agency and online privacy.

OUTCOME

An art project to be performed at public conferences and festivals. In exchange for a free tote bag, participants implicitly agree to being tracked, observed, and evaluated by a group of volunteers spread throughout a participating event venue. The journey ends with a “reveal” that confronts participants with invasive observations and assumptions designed to leave them questioning the acceptability of their digital selves being tracked.



SELECT PERFORMANCES

Dutch Design Week, 2021 (NL)
re:publica, 2022 (DE)
Public Spaces, 2023 (NL)

FEATURED AT

Ars Electronica, 2021 (Online)
Impakt Festival, 2021 (NL)
Bits of Freedom, 2022 (NL)

WEBSITE

adriaanb.github.io/invisible/

SPONSORS

School of Machines (Berlin, DE)
IMPAKT (Utrecht, NL)



CRT TV HACKS

Exploring Aesthetics and Science of Analog Technology

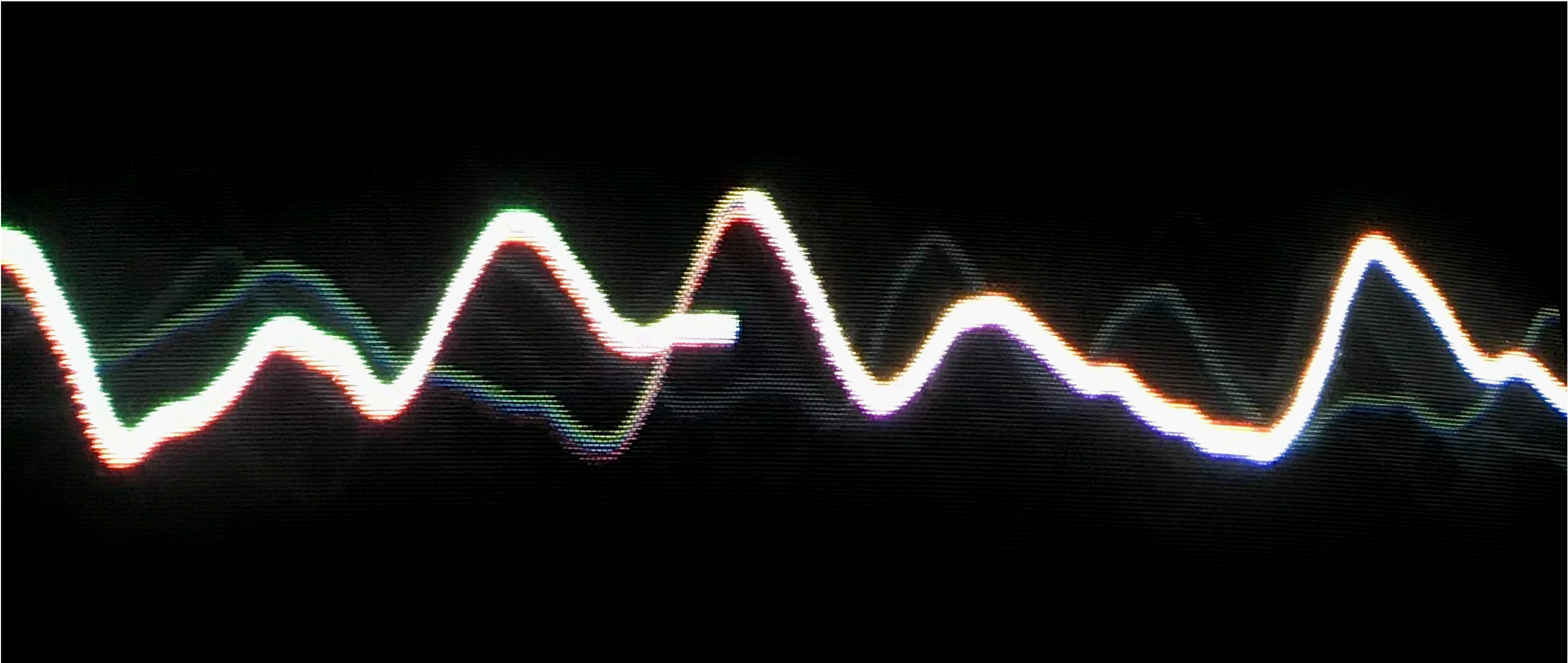
TYPE

Hardware Hacking, 2020-23

TOPICS

Analog Signals, Hardware, Signal Processing

A collection of projects exploring the quirks and intricacies of obsolete technology, highlighting the creative potential and aesthetic qualities inherent in the analog nature of CRT televisions.



OBJECTIVE

Explore the appeal of analog technologies beyond their perceived obsolescence. These technologies once dominated the technological landscape, and while they have been overshadowed by digital advances, they still offer fascinating complexity and a wealth of untapped potential for storytelling and experimental use.

OUTCOME

A series of experimental hacks that reveal the intricate principles behind analog technologies, allowing playful manipulation and distortion to observe fascinating effects. At events such as the Delft Maker Faire, these hacks allowed the public to learn about complex topics such as electromagnetism, electron-stimulated luminescence, and the EM spectrum, and connect them to broader concepts such as the cosmic microwave background and cosmic expansion.



ROLES

Maker, Science Communicator

KEY TECHNOLOGIES

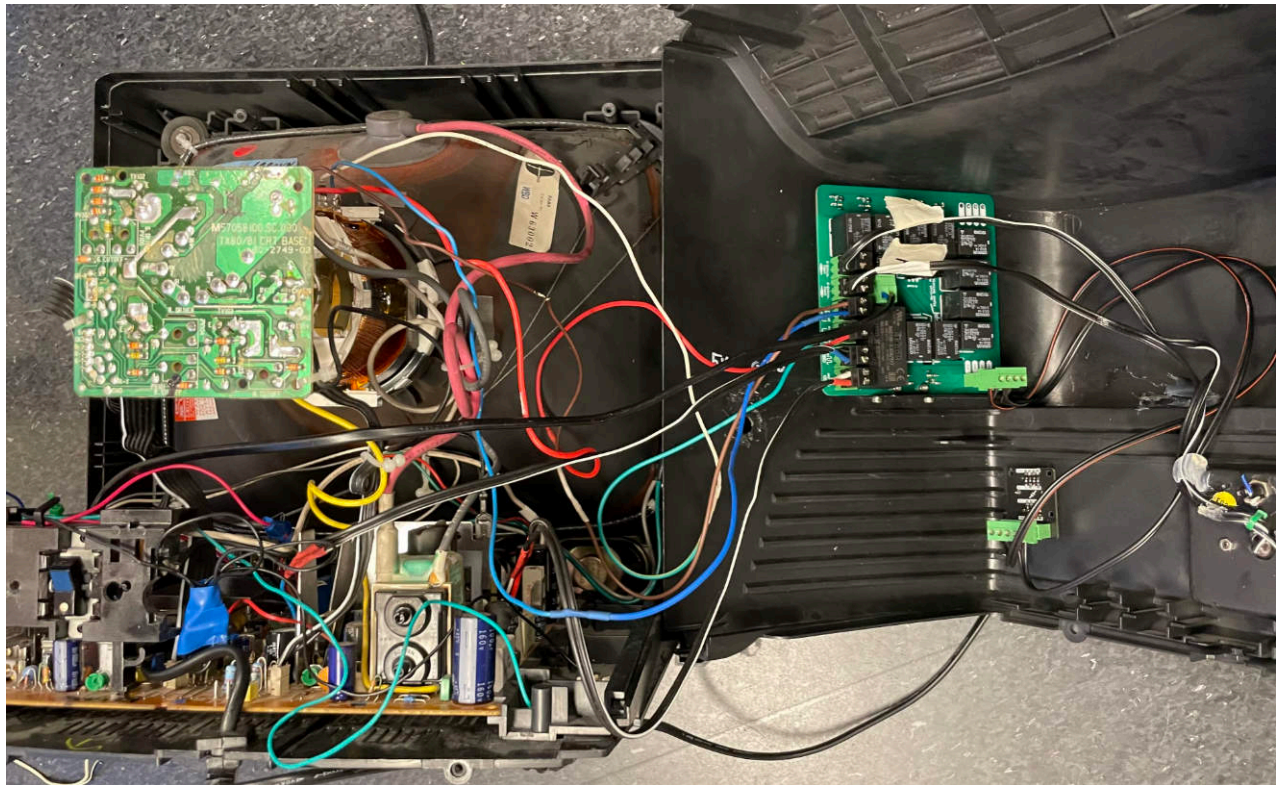
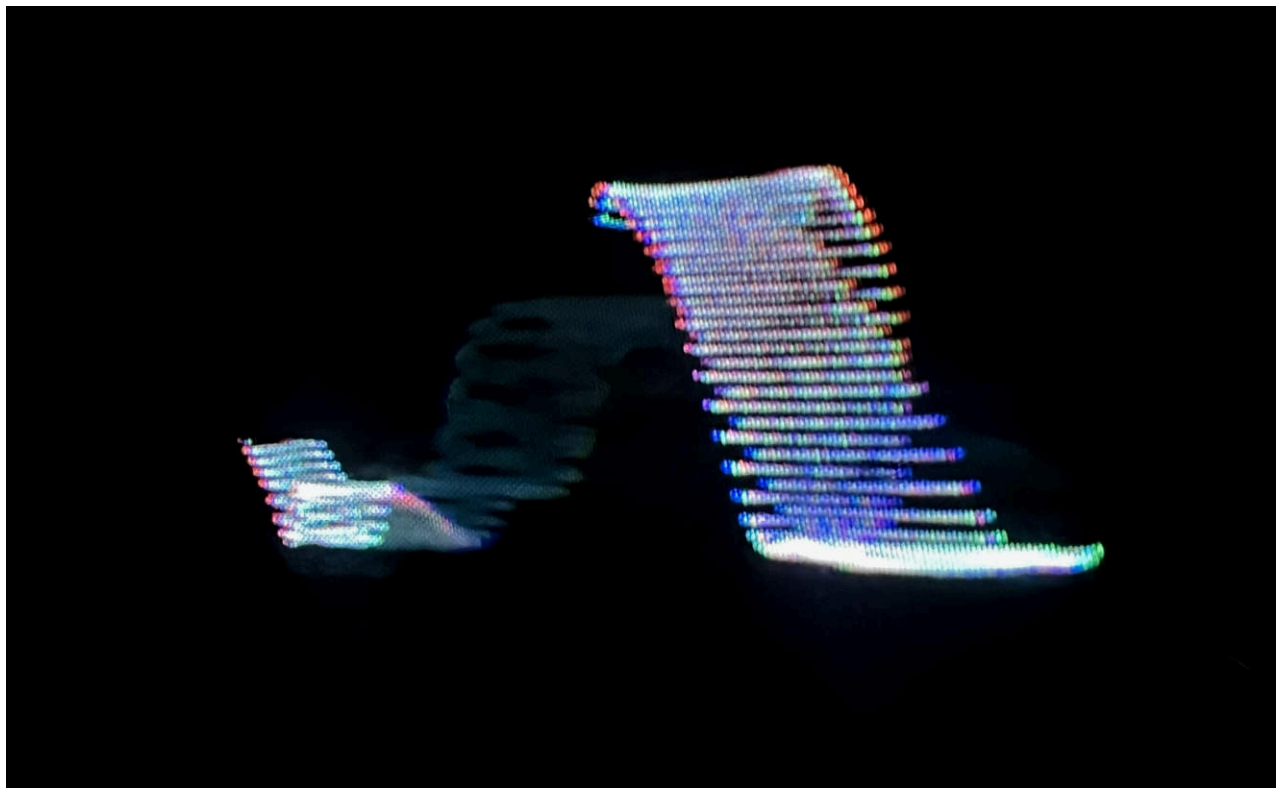
*CRT Screens, Analog Signal Processing,
RF Signal & Electron Beam Modulation*

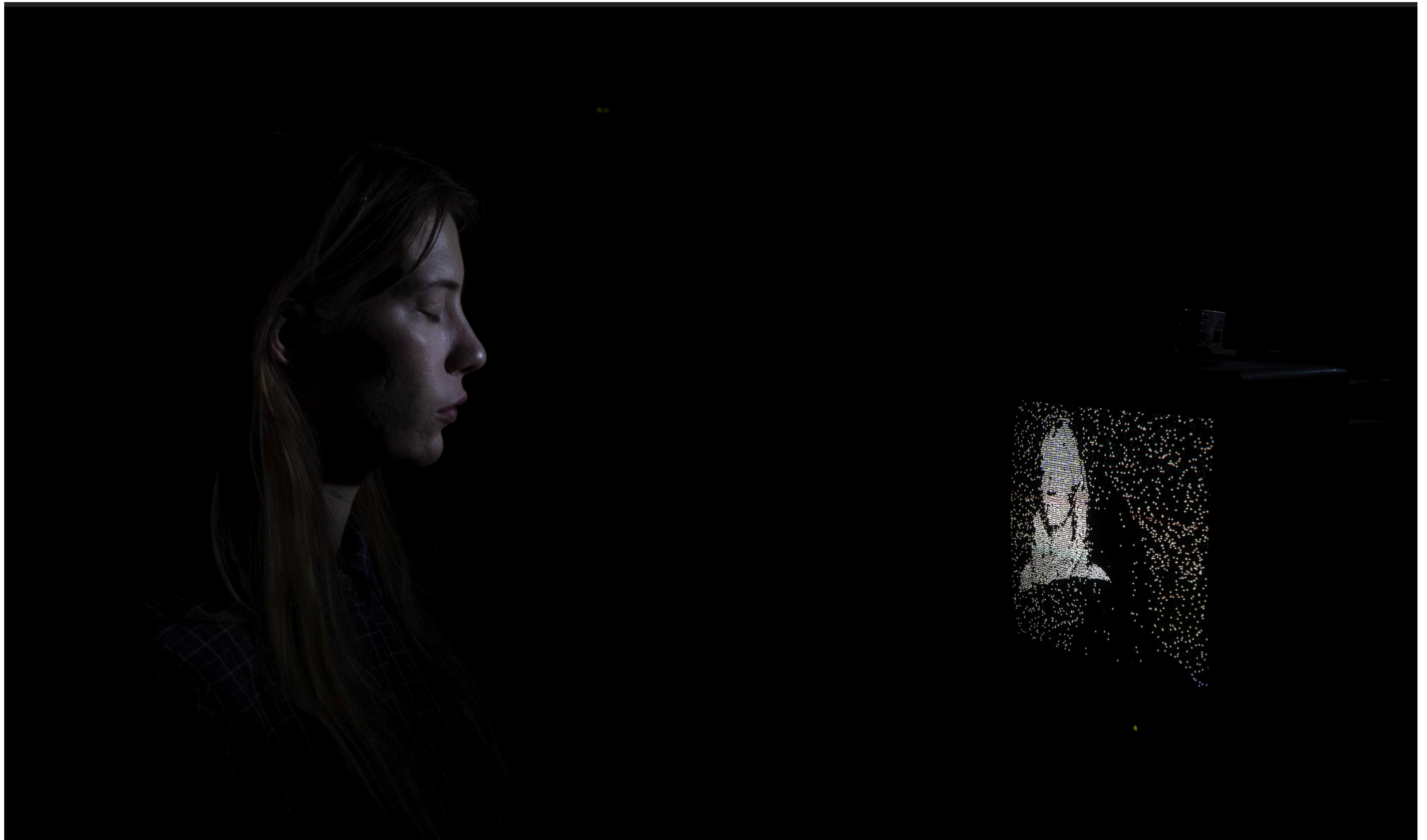
KEY SKILLS

*Electronics, Hardware Hacking,
PCB Design*

BACKGROUND

Self-motivated





WORKSHOPS & TEACHING

Enticing Designers to Broaden their Creative Repertoire

A series of workshops and lectures hosted in-person or online, introducing designers & students to electronics, hardware, and code as means to infuse objects with behavior and express ideas.

TYPE

Education, 2021-24

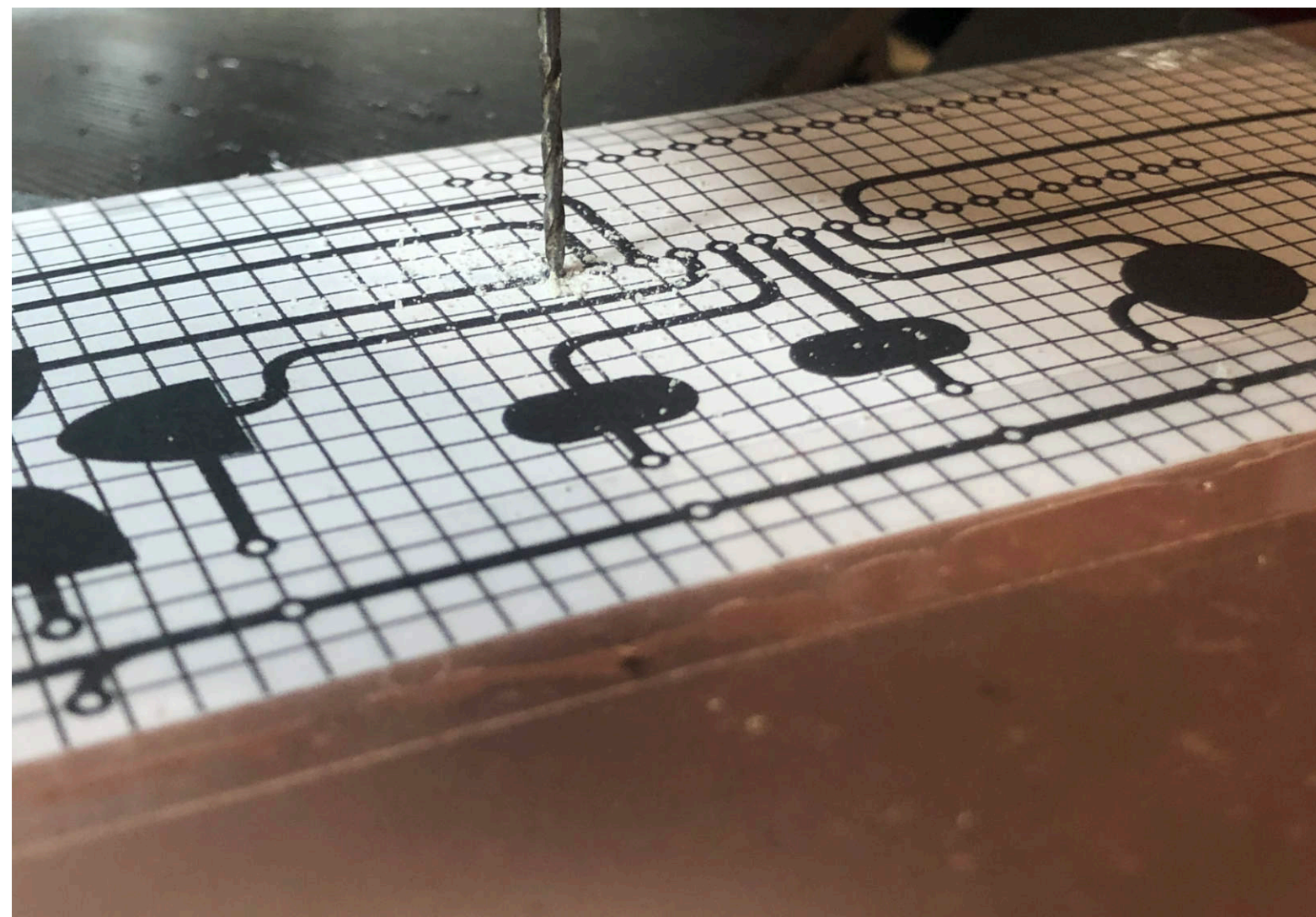
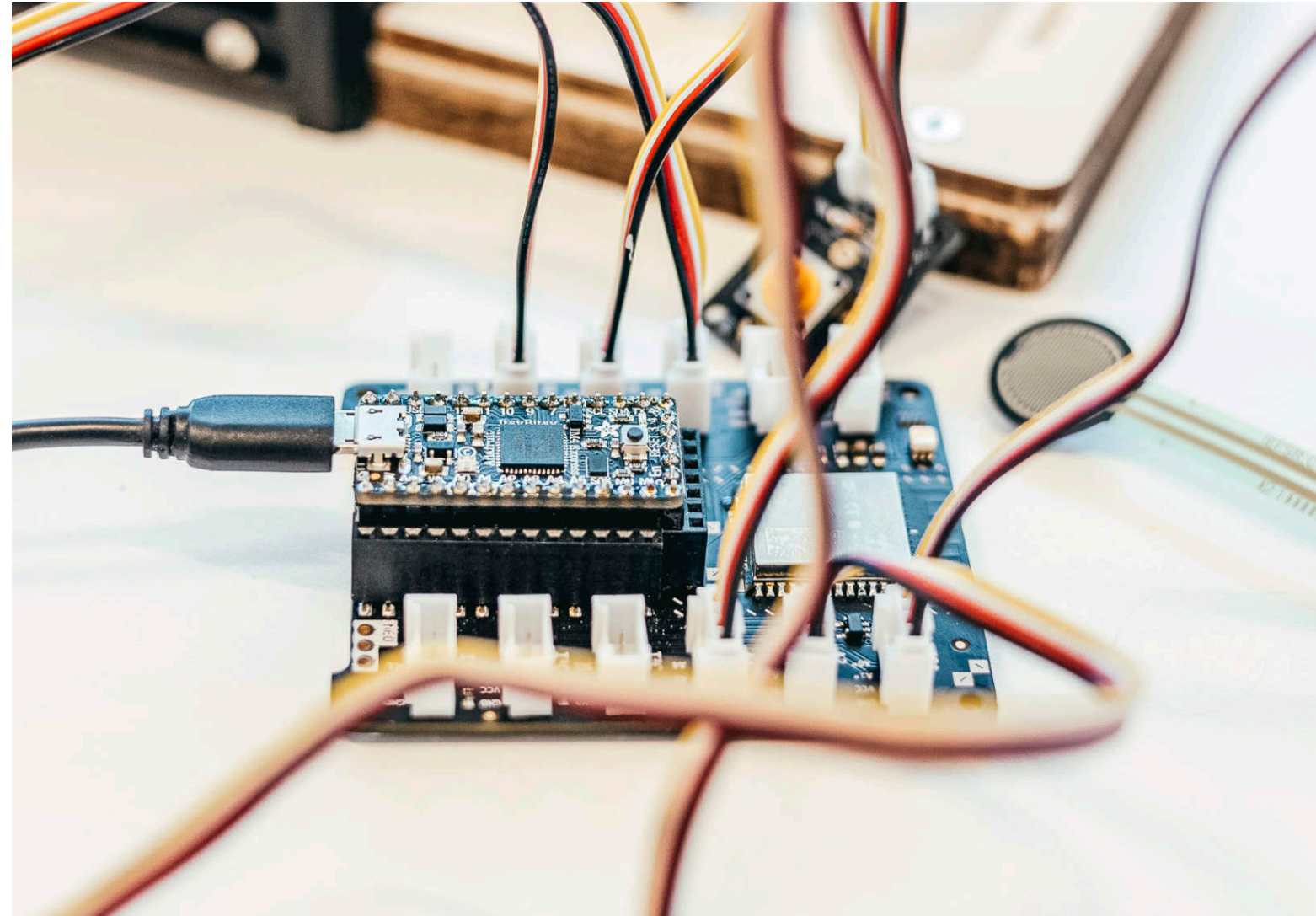
TOPICS

Teaching, Interactive Technologies, HCI, Physical Computing



OBJECTIVE

Create engaging, fun experiences to introduce new knowledge in a context that enables participants to put learnings into practice immediately and autonomously.



OUTCOME

A range of talks and workshops, usually 1-3 days in duration, on a variety of topics, ranging from basics of embedded electronics, prototyping interactions using hardware and code, to PCB etching.



ROLES

Facilitation, Didactics

SELECTED WORKSHOPS

*Münster School of Design, 2022, 2023 & 2024
Delft Maker Faire, June 2022*

KEY SKILLS

*Teaching, Prototyping, Didactics,
Electronics, Programming*

BACKGROUND

Freelance



MULTISENSORY DEVICES

Familiar Encounters That Humanize Technology

TYPE

Research Project, 2018

TOPICS

Crossmodal Perception, Metamaterials, HCI

Multisensory Devices envision technology as a facilitator of sensory experiences that appeal to our intrinsic sense of curiosity.

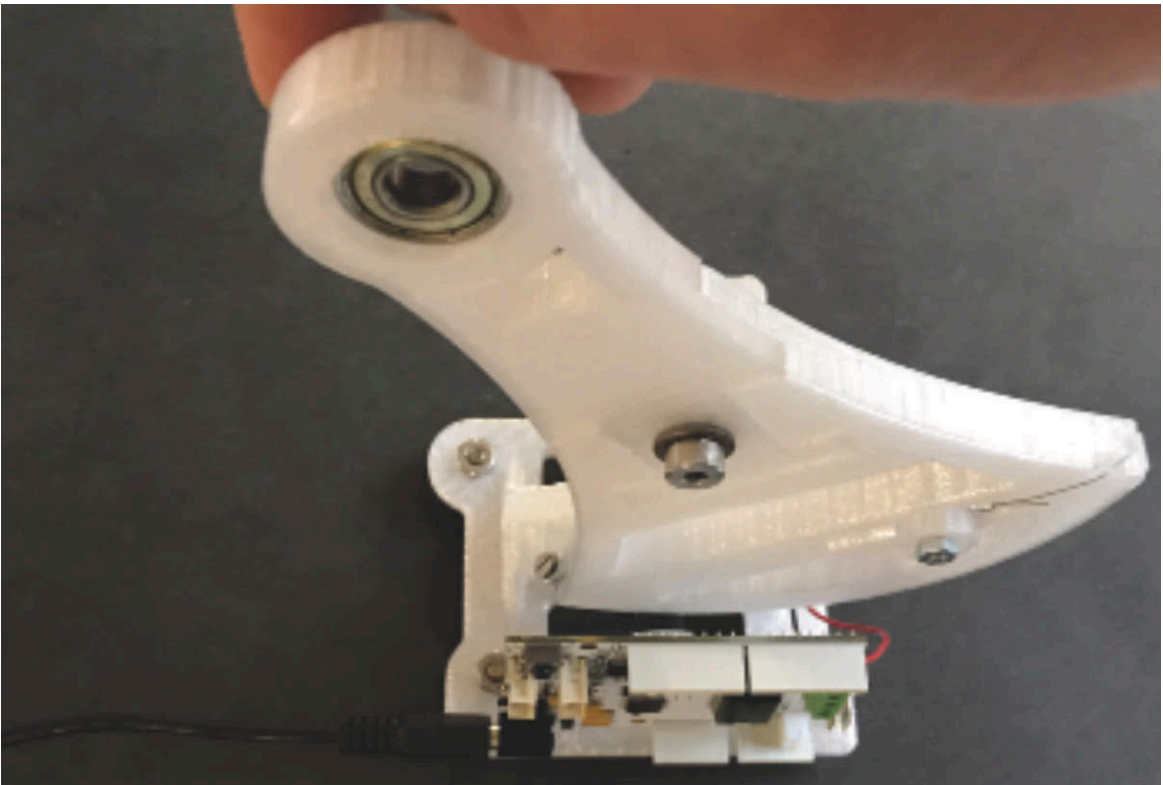
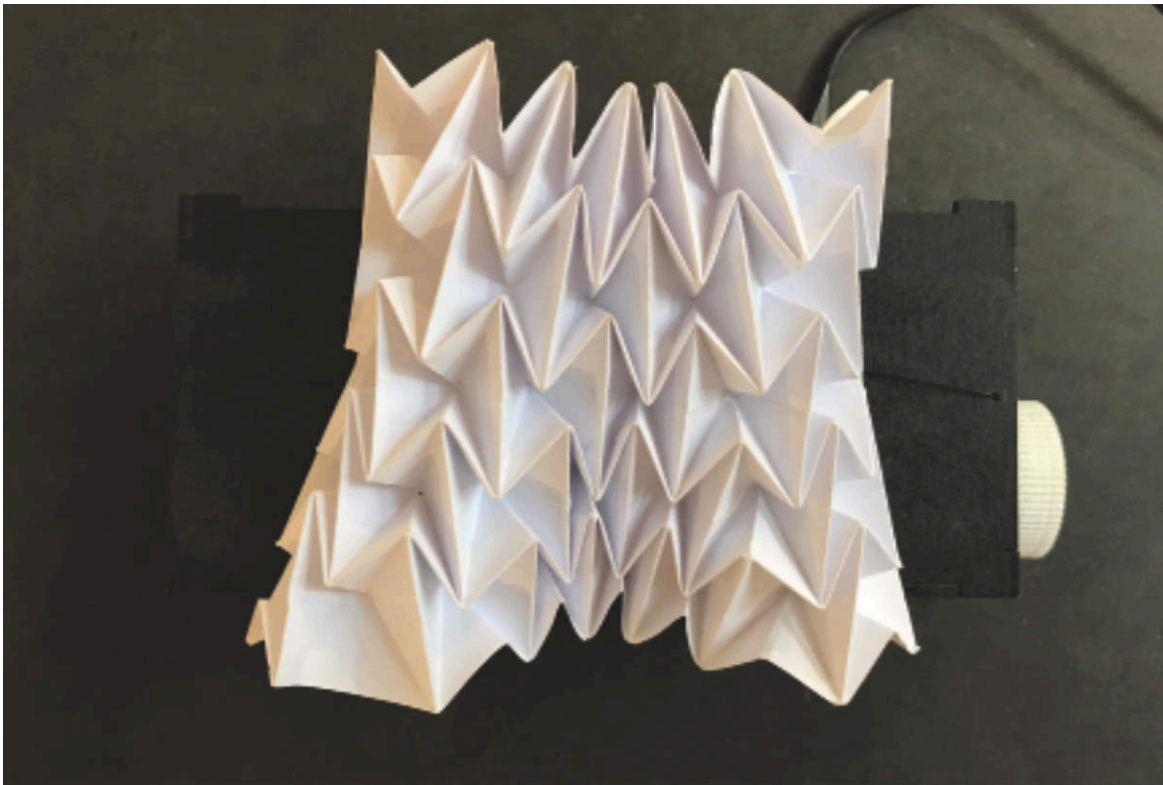
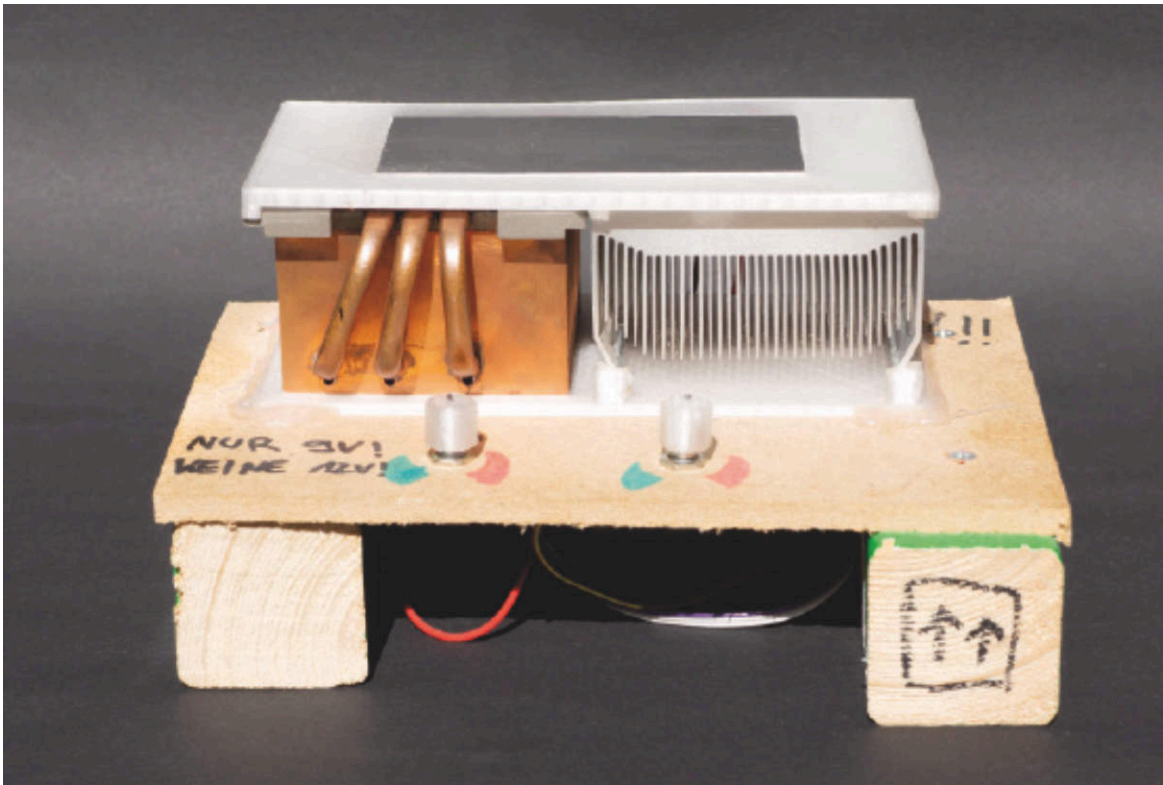
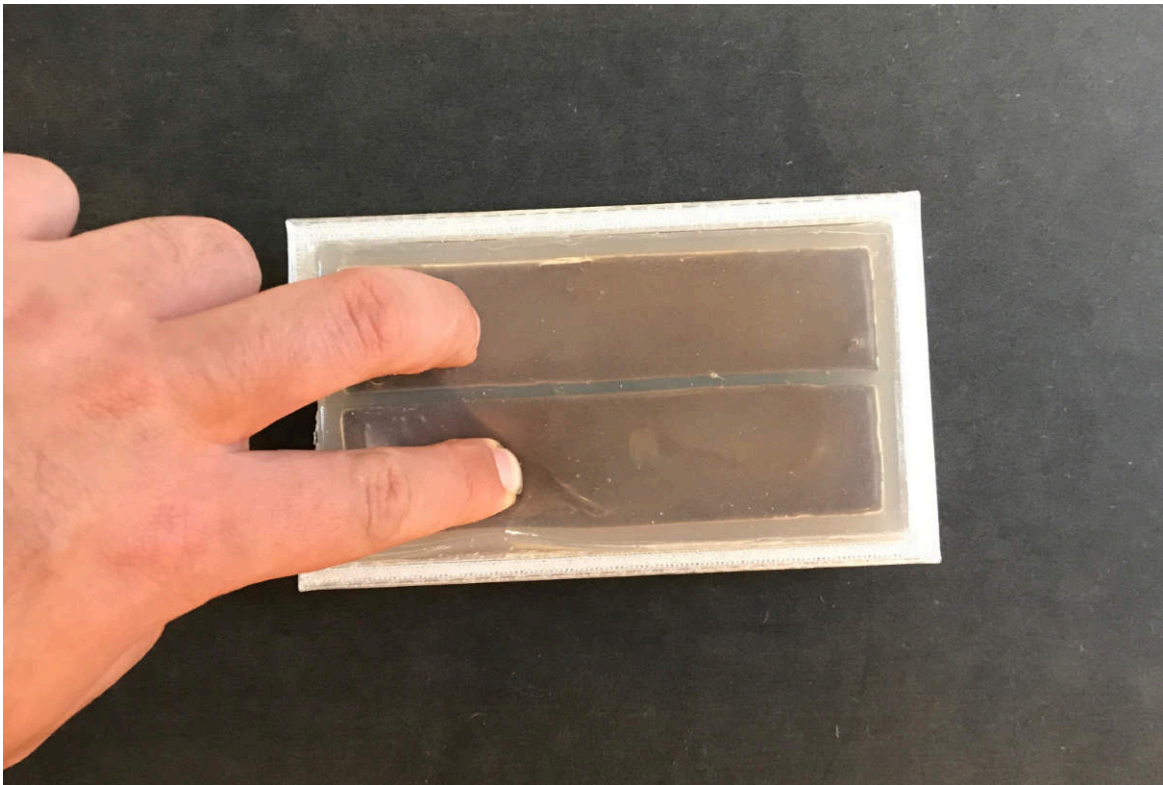
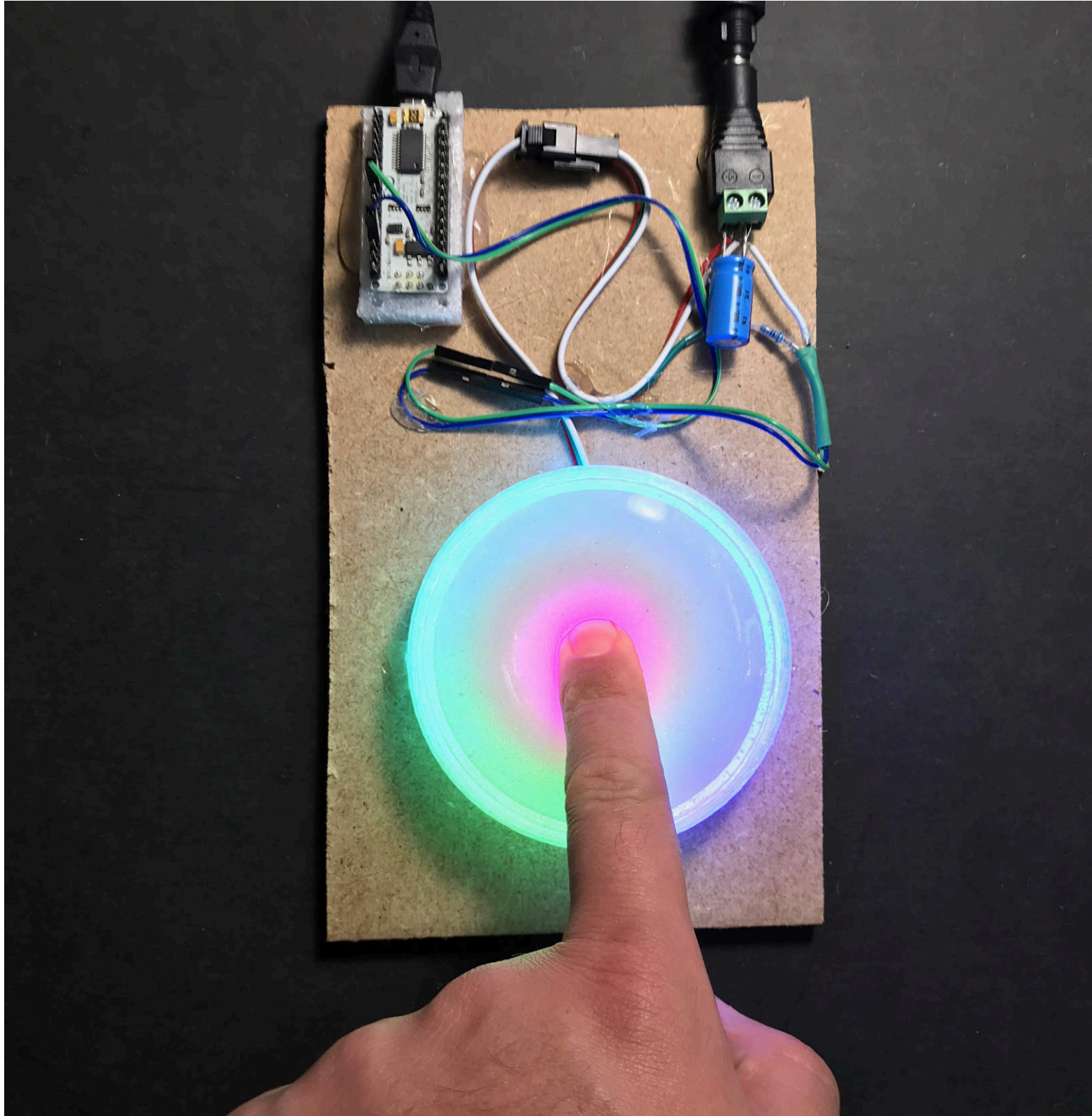
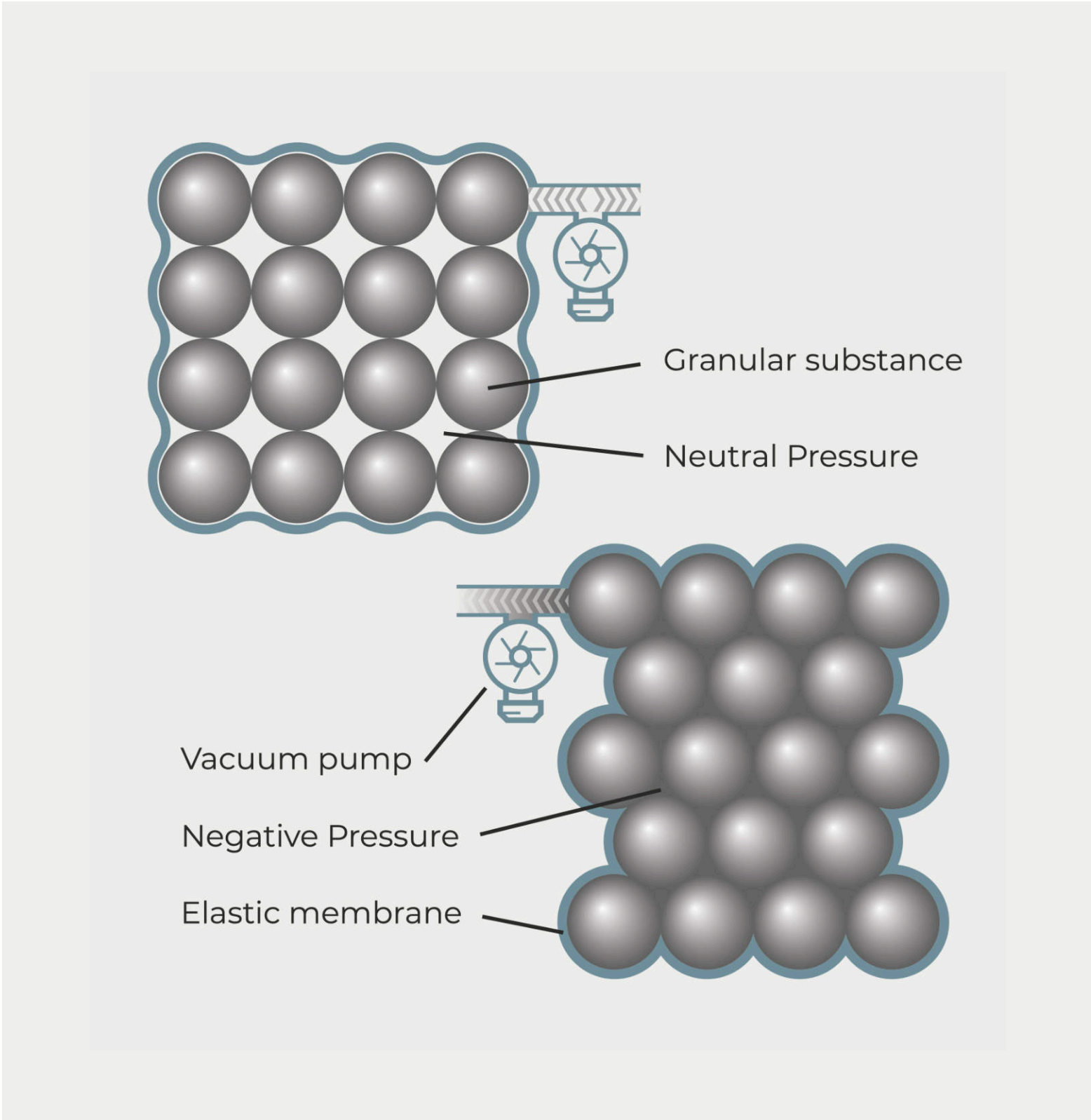


OBJECTIVE

Identify technologies and build prototypes that cater to human sensory capabilities and help to recognize salient cross-modal effects.

OUTCOME

A repertoire of tools to create enticing experiences and test interactive technologies, enabling further exploration and research of multimodal interfaces.



ROLES

Creative Technologist, Researcher

KEY TECHNOLOGIES

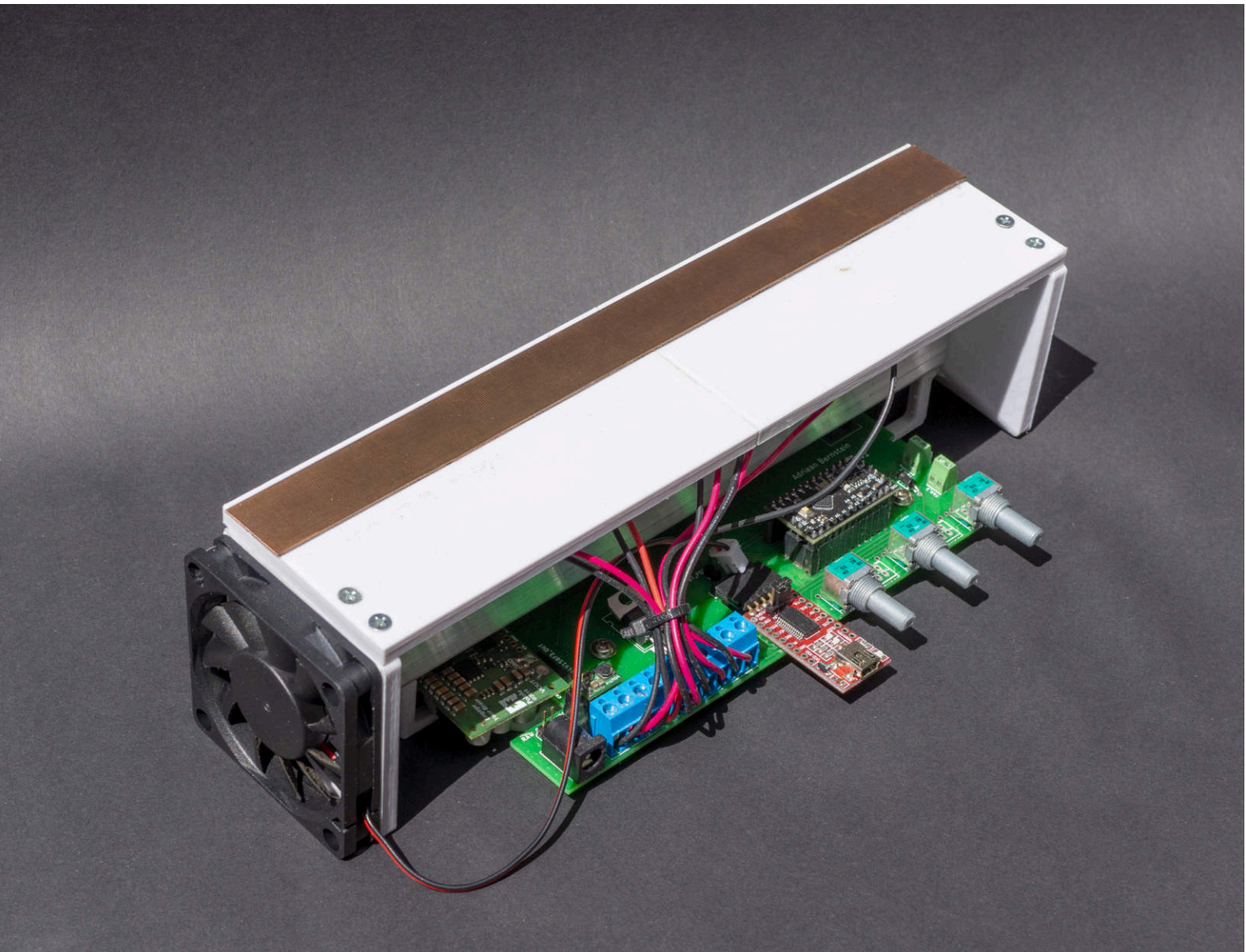
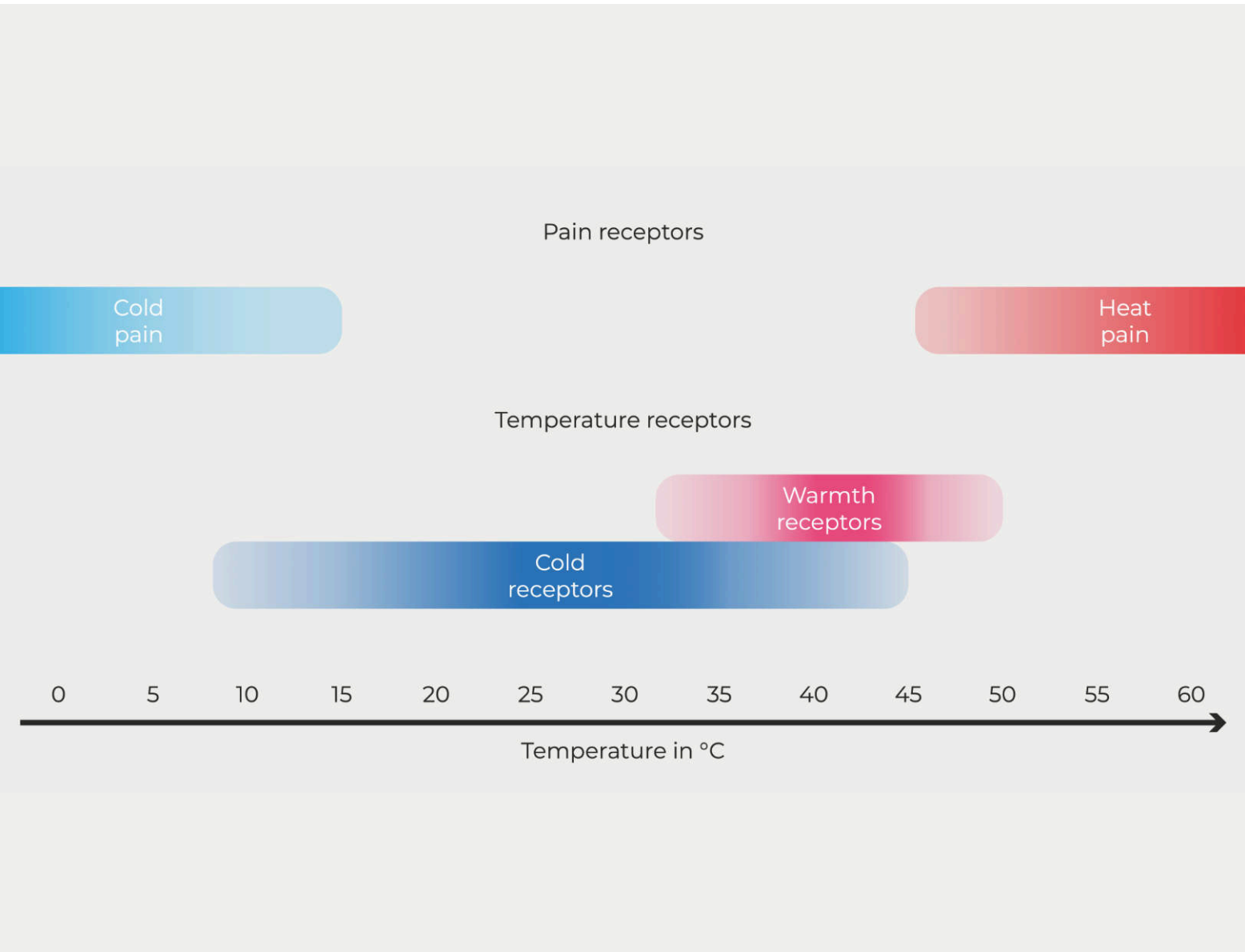
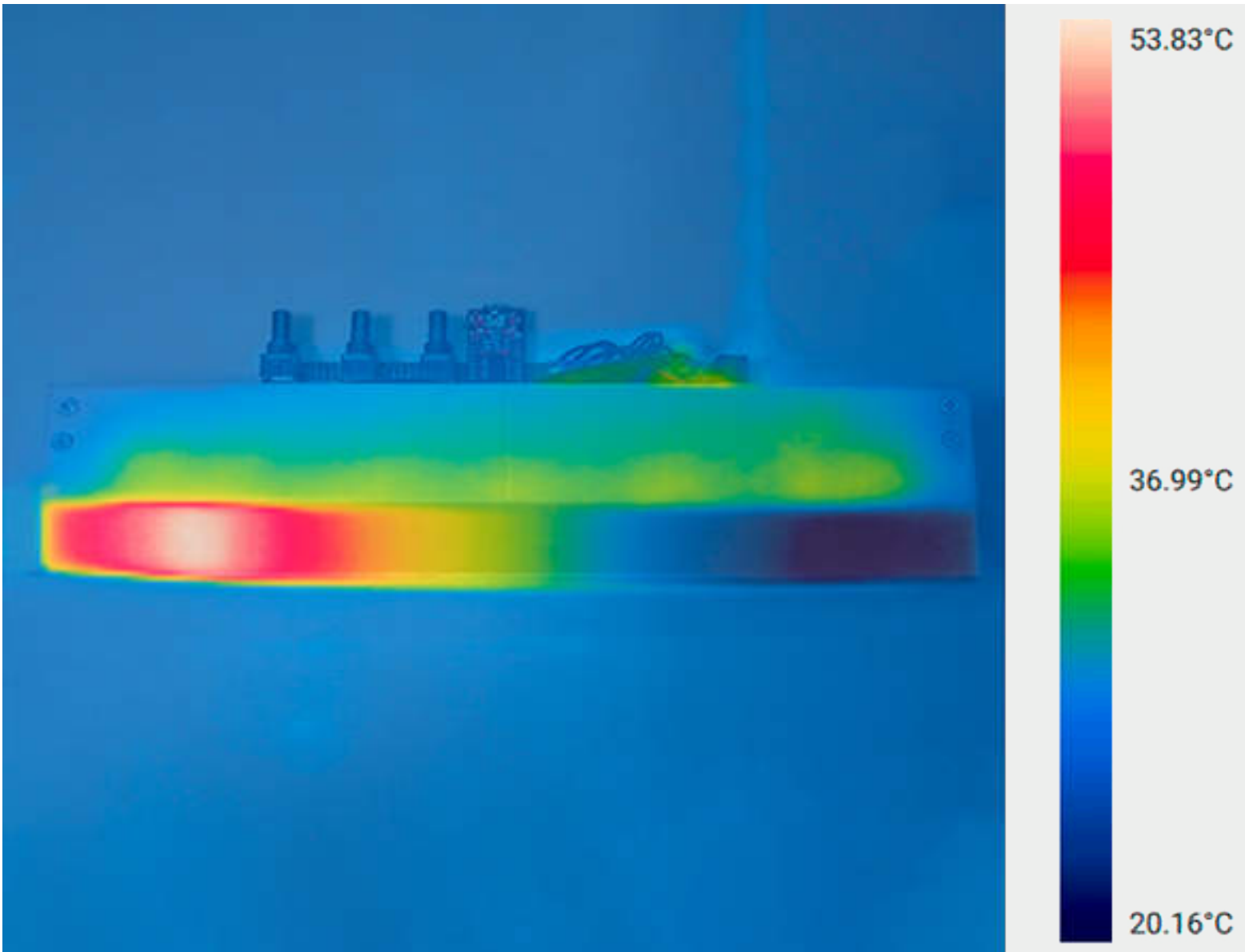
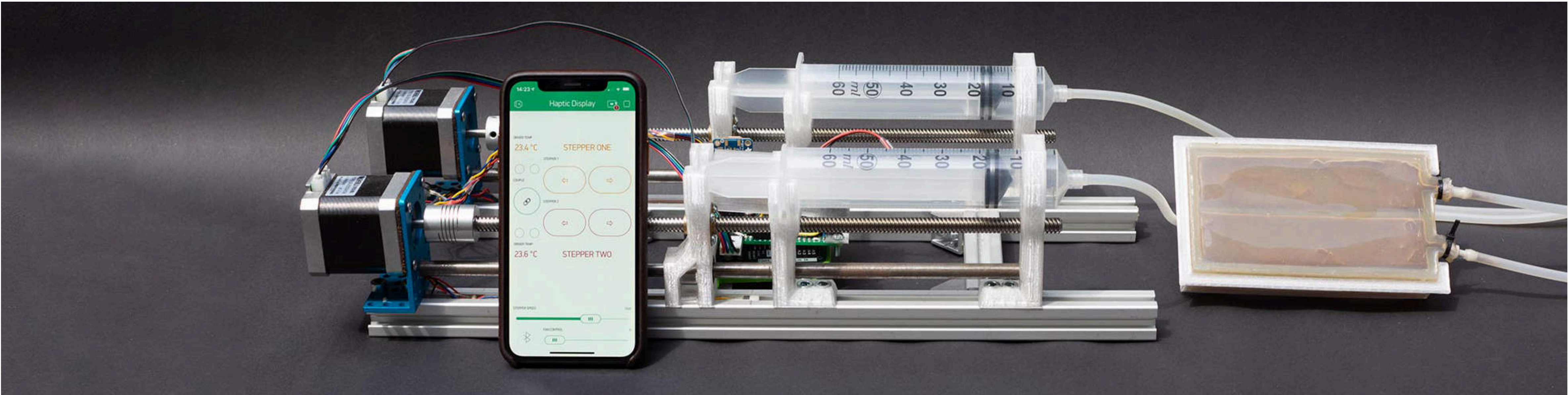
Soft Robotics, Thermoelectric Cooling,
Haptic Jamming, Origami

KEY SKILLS

Rapid Prototyping, PCB Design,
Electronics Prototyping, Arduino, C++

BACKGROUND

Self-motivated



HOME GARDENING

The Future of Green Urban Living

The Home Garden is a hydroponic appliance concept that enables users to grow distinctive, flavorful, and nutritionally rich produce with ease.

TYPE

Research Project, 2017

TOPICS

Home Appliances, Ubiquitous Computing, Hydroponics, Urban Gardening

TEAM

Lorenz Bauer, Adriaan Bernstein, Anne Brus, Jan Frielingsdorf, Tobias Fröhlich, Martijn Verbij

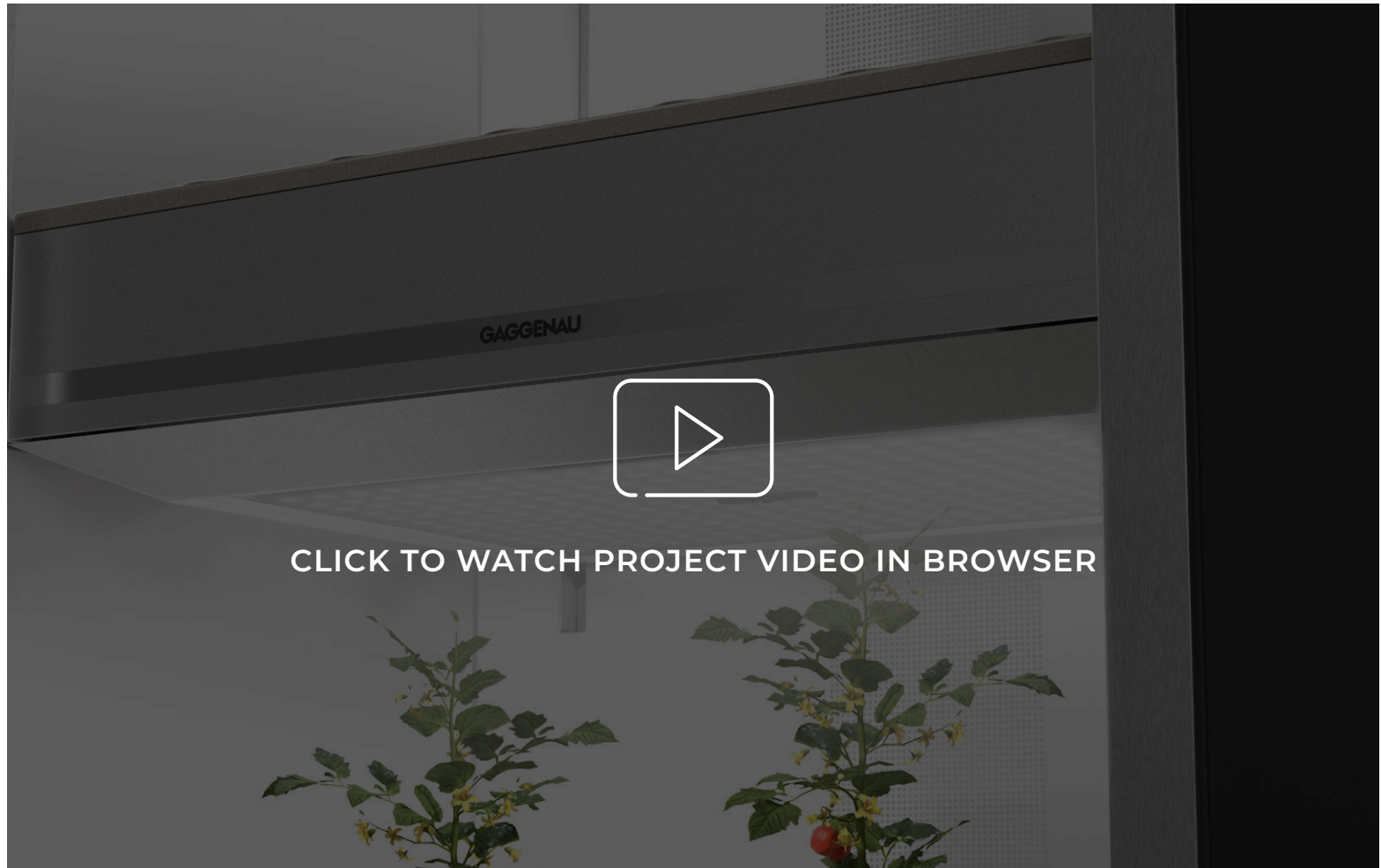
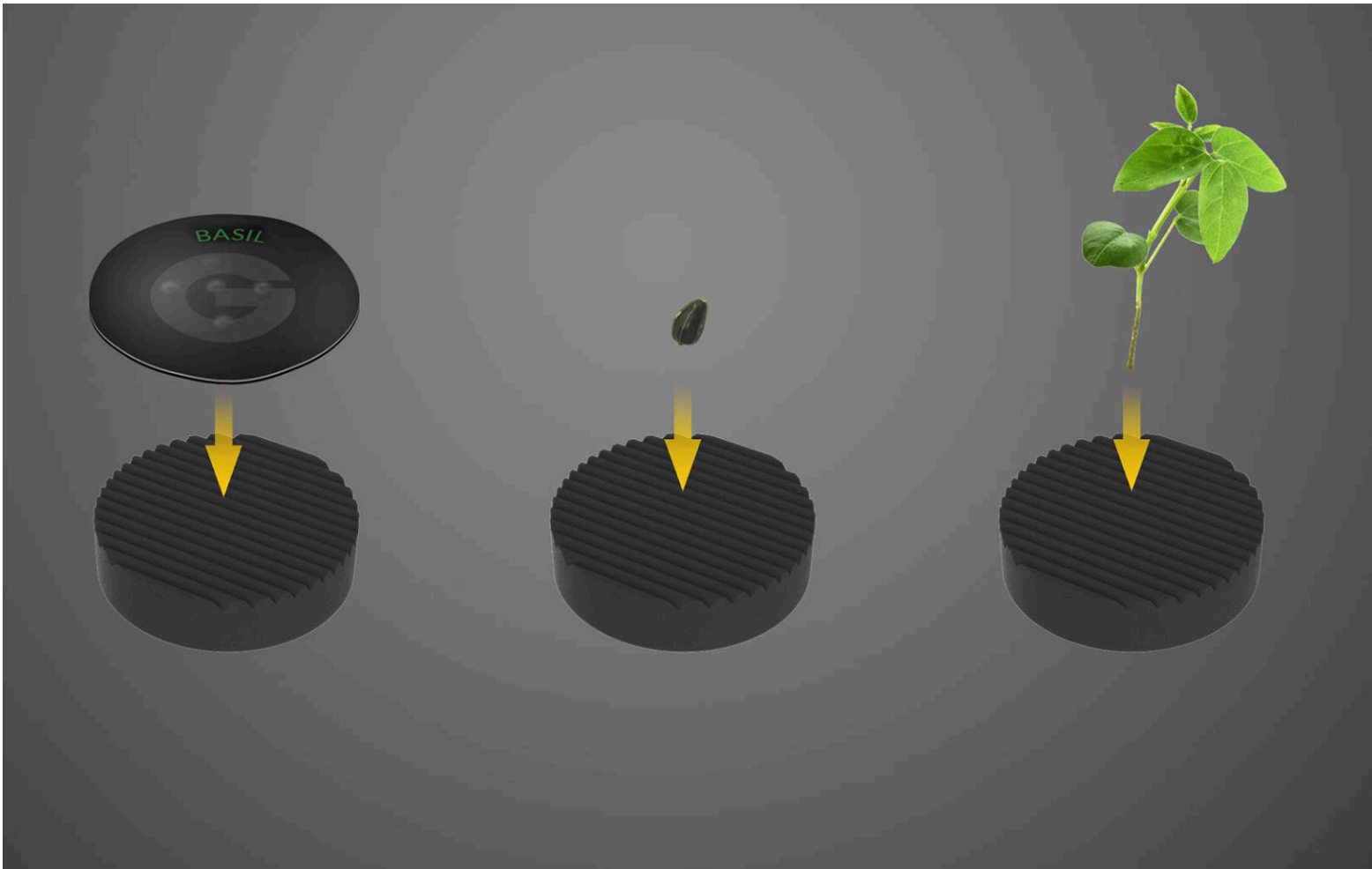
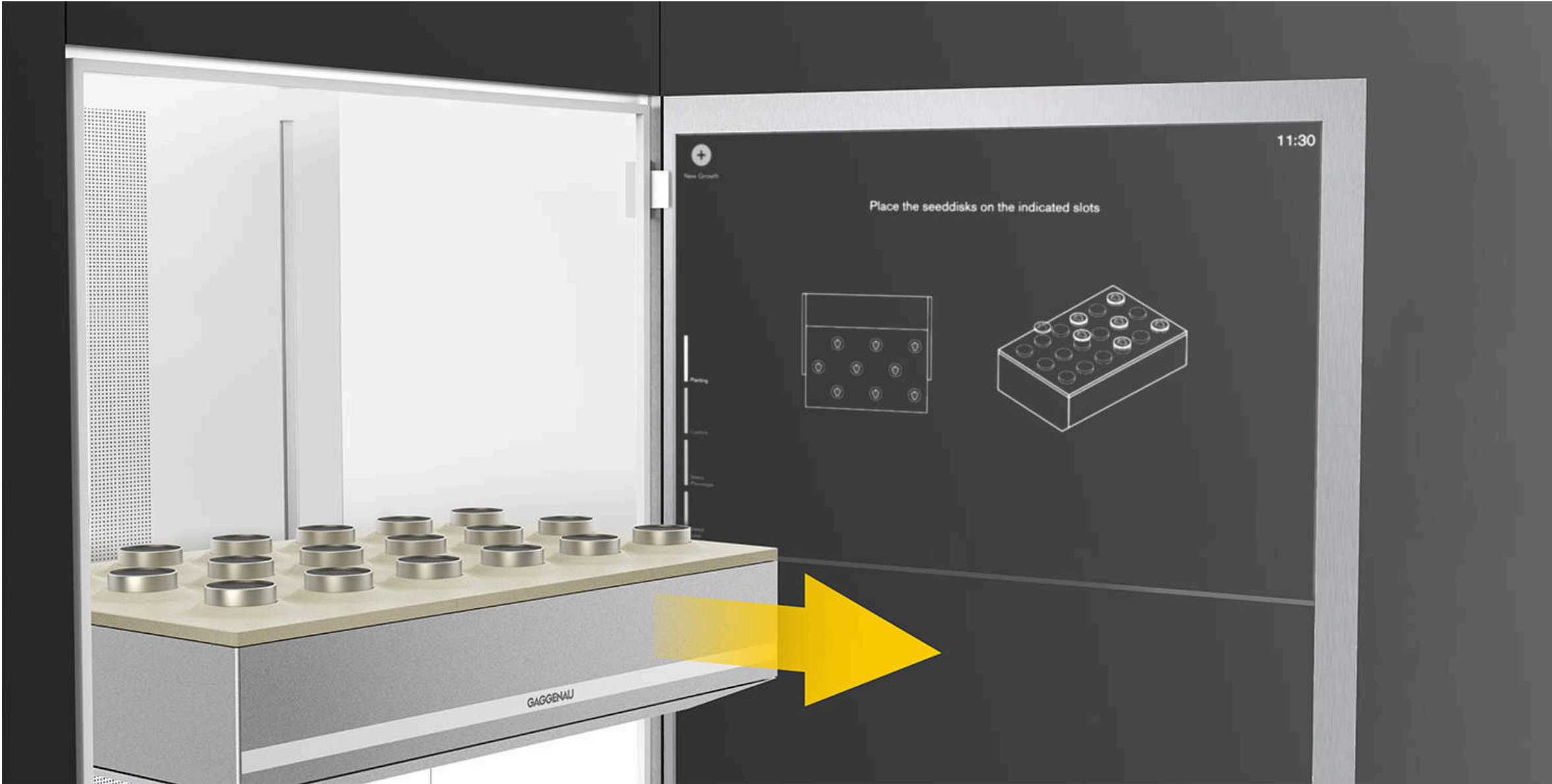


OBJECTIVE

Develop a future concept for the high-end appliance brand Gaggenau that maintains the brand’s luxury image and provides innovation for culinary enthusiasts.

OUTCOME

A product and experience that invokes an optimistic view of the future and encourages people and communities to pursue their ambitions and share their resources.



ROLES

*Interaction Designer,
UX/UI Designer, Researcher*

CONTRIBUTIONS

*Technology Vision, Scenario Planning,
User Research, Concept Development*

INSTITUTION

*Delft University of Technology,
The Netherlands*

PARTNER

Gaggenau Home Appliances GmbH



VOLKSWAGEN CAR-NET

A Touchpoint for Online Services

This installation uses interactive and kinetic gameplay elements to introduce online mobile services in a physical context.

TYPE

Client Project, 2014

TOPICS

*Exhibition Design, Interactive Kinetics,
Game Design*

TEAM

*Adriaan Bernstein, Paul Heyer,
Norman Wassmuth*

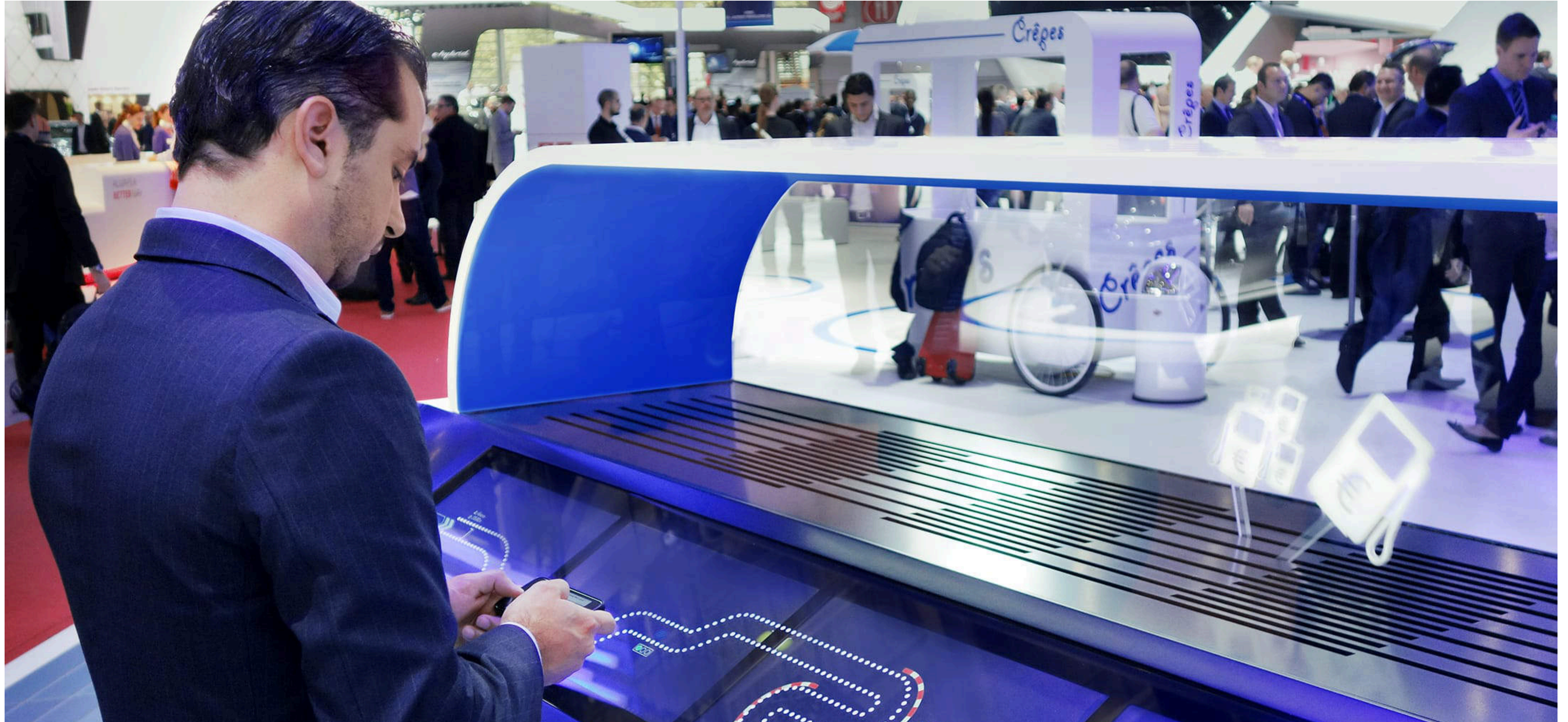


OBJECTIVE

Build an exhibition piece to introduce Volkswagen's Car-Net services at international motor shows (Paris, Geneva, Frankfurt, Los Angeles, Chicago, and Shanghai)

OUTCOME

An exhibition piece centered around a playful, interactive journey along a digital obstacle course. As players control an avatar using their smartphones, they encounter challenges that can be overcome using CarNet services.



ROLES

*Interaction Designer,
UX/UI Designer*

CONTRIBUTIONS

*Visual and Interaction Prototyping,
Interface Design, Game Design*

COMPANY

ART+COM Studios

CLIENT

Volkswagen AG



PCB BUSINESS CARD
Make the First Impression Count

TYPE
Self-promotion, 2020

TOPICS
Branding, Interactive Technology

An interactive business card that gives new contacts quick and memorable insights into my creative style, capabilities, and the tools I use.

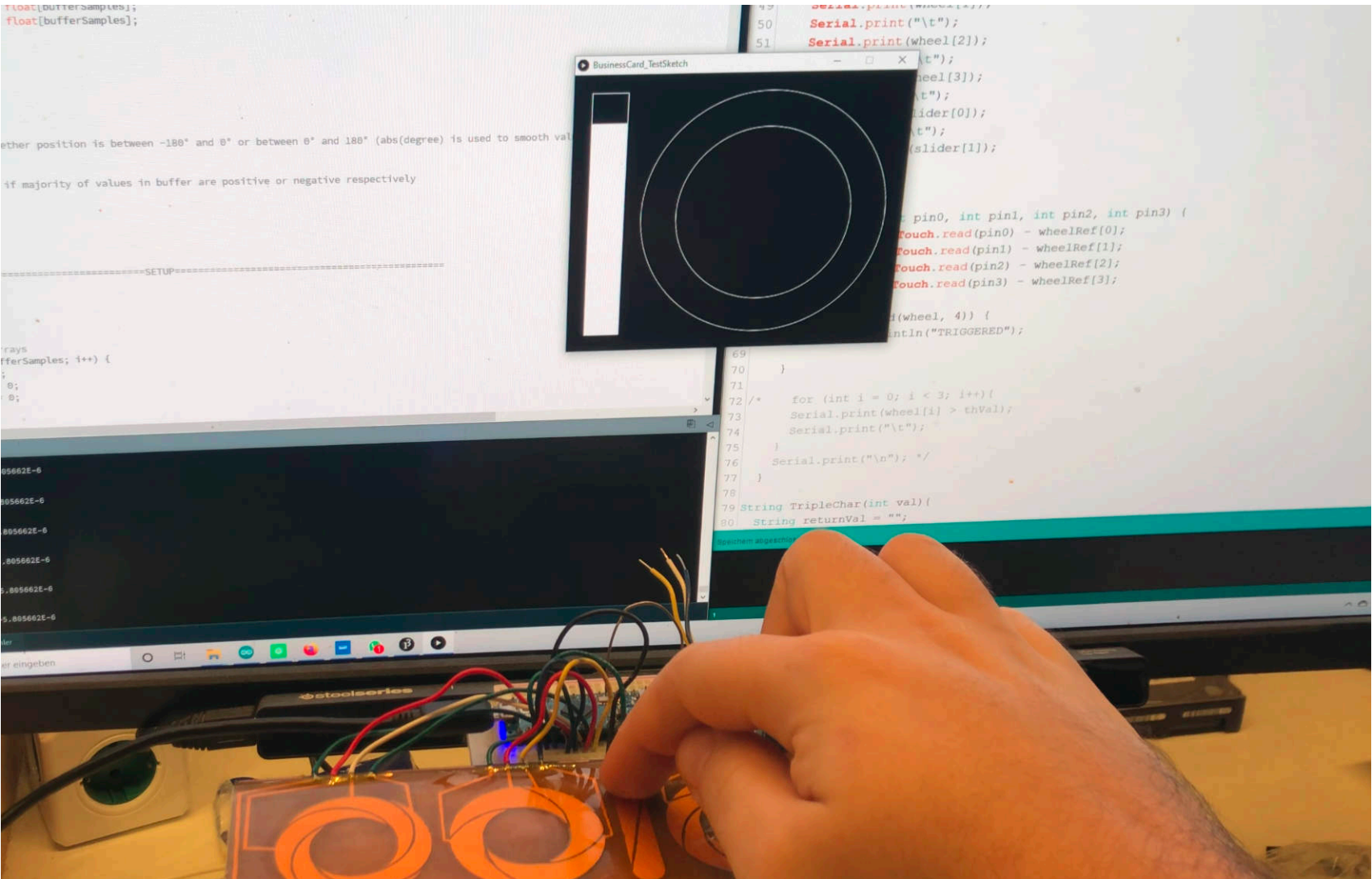
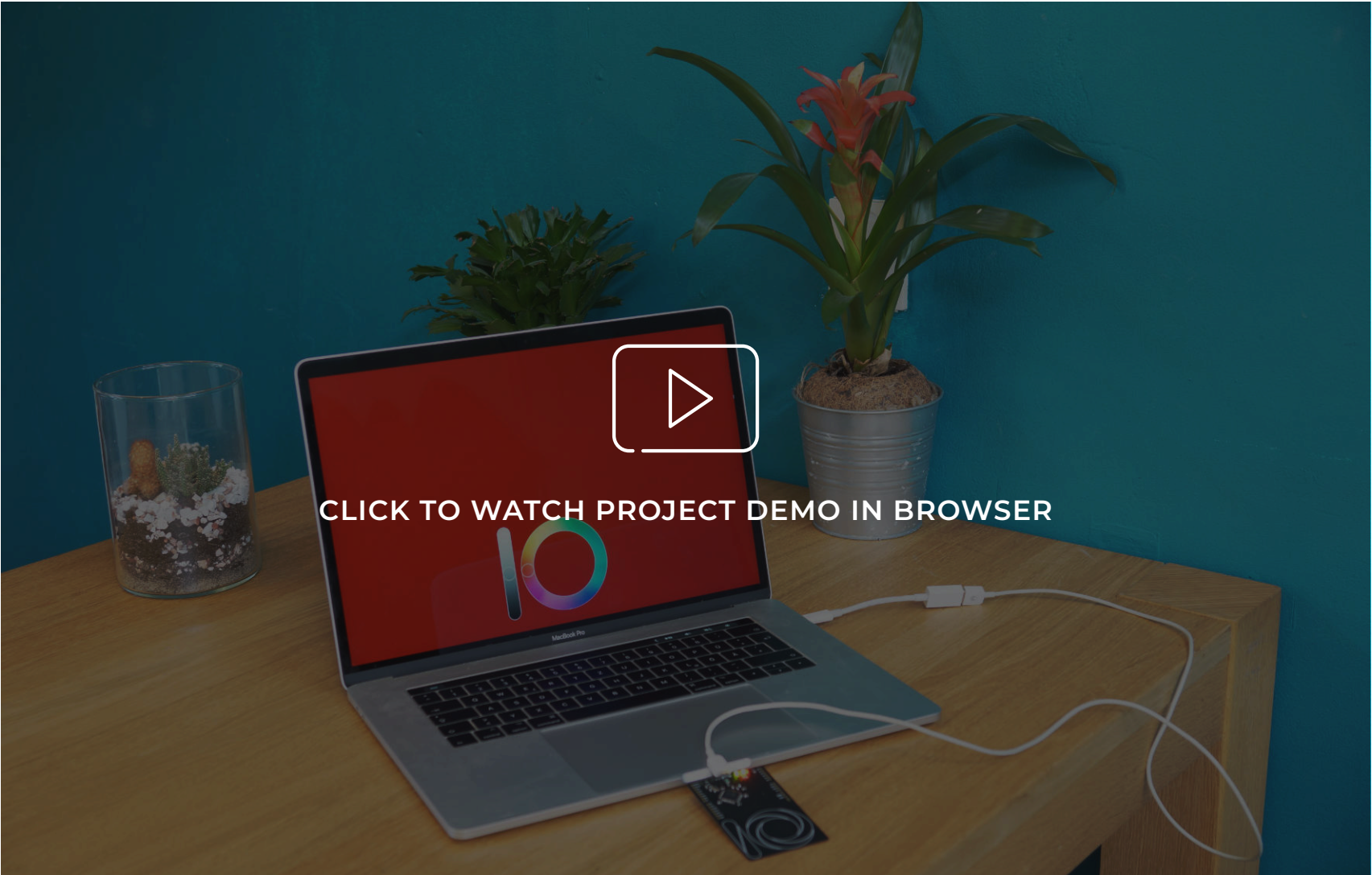


OBJECTIVE

Create a unique, informative, and useful tool to introduce myself to new contacts.

OUTCOME

A PCB business card that features capacitive touch elements to enable advanced interactions with my web portfolio. The card is re-programmable and fully supports Arduino IDE, allowing recipients to use it for their projects.



ROLES

Maker, Creative Technologist

KEY TECHNOLOGIES

Capacitive sensing, Printed Circuit Boards

KEY SKILLS

Electronics Prototyping, ECAD (PCB Design), SMD Soldering, Arduino C++

BACKGROUND

Self-motivated



FOOD FOR THOUGHT

A playful interaction promoting intercultural understanding

TYPE

Semester project, 2016

TOPICS

Target Group Research, Social Design, Game Design, User Studies

Sharing a meal is a universal cultural practice and a powerful means of non-verbal communication. “Food For Thought” is a game that embraces this theme in order to counter emerging resentments in the context of the European refugee crisis.



OBJECTIVE

Identifying the needs of refugees and the needs of volunteers in organizations involved in the care and integration of refugees. Conception of a design intervention that makes a constructive contribution in this context.

OUTCOME

A wooden game reminiscent of backgammon, a game popular in many cultures. Accompanied by a set of cards, it teaches basic learning objectives for mutual understanding. Through cooperation, groups of players learn to communicate effectively with each other in order to win ingredients for a favorite dish. The dish is then cooked by the community.



ROLES

Researcher, Designer

METHODS

Contextmapping, Research through Design

KEY SKILLS

*Design Research, Prototyping,
Workshop Facilitation*

PARTNERS

*Refugee Organizations & Buddy Programs
across The Netherlands and Germany*



THANK YOU!



CLICK TO VISIT MY PORTFOLIO



CLICK TO DOWNLOAD MY RESUME