ART&CODE: homemade
online • 14–16 January 2021 • digital tools + crafty approaches
Acknowledgments

About Art && Code: Homemade
Art && Code: Homemade is a project of the Frank-Ratchye STUDIO for Creative Inquiry at Carnegie Mellon University (CMU). Founded in 1989 within the CMU College of Fine Arts, the STUDIO is a laboratory for atypical, anti-disciplinary, and inter-institutional research and education at the intersections of the arts, science, technology and culture.

Art && Code: Homemade has been organized by Golan Levin (Director of the STUDIO and Professor of Electronic Art), and programmed in collaboration with curatorial advisors Lea Albaugh, Madeline Gannon, and Claire Hentschker.

Presented as a free online festival, Art && Code: Homemade was held January 14-16, 2021. Complete information is available at http://artandcode.com/homemade.

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About Our Conference Series
The STUDIO’s long-running Art && Code event series is concerned with democratizing the cultural and creative potentials of emerging technologies. Half arts festival, half academic symposium, our four previous editions have focused on:

• WEIRD REALITY: Head-Mounted Art && Code — New and independent visions for virtual & augmented realities (October 2016)
• Art && Code 3D: DIY 3D Sensing and Visualization — Artistic, technical, tactical and cultural potentials of low-cost 3D scanning devices (October 2011)
• Mobile Art && Code — Artistic and Tactical Approaches to Mobile, Networked and Locative Media (November 2009)
• Art && Code: Toolkits — Programming Environments for Artists, Young People, and the Rest of Us (March 2009)

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About this ‘Zine
This ‘zine was created from contributions generously provided by the Art && Code presenters. The rights of all works compiled herein remain with their authors/creators.
5 Kelli Anderson
Better hand-feel than doomscrolling
Make a paper fidget object that reminds that your life does not depend on obsessively checking twitter. You’ll need a printer, glue or tape, and an X-acto or utility knife. Go!

7 Sarah Rosalena Brady
Above Below
Cosmo pattern and an excerpt from Above Below, an essay on Jacquard weaving.

9 Max Bittker
Digital Materiality
A small number of thoughts and questions on the nature of digital materials. Featuring Microsoft Excel artworks by Tatsuo Horiuchi.

11 Laura Devendorf
This is a Draft
An activity for those who find solace in grids. A xerox-able template for those who find themselves needing to sketch woven structures.

13 Hannah Epstein
Electro-magnetic evolution
A supercharged vision of the artist present advanced to the artist replaced by AI

15 ann haeyoung
colonizers colonizing colonists flipbook

17 Kelly Heaton
A pair of electronic devices for Naturalism and Occultism.
Front: copper layer for an analog electronic circuit that squawks like two parrots.
Reverse: an astable multivibrator talisman for the protection of electronic devices.

19 LaJuné McMillian

21 Tatyana Deslandes Mustakos
Paper Doll and Tiny Coat Pattern
A small paper doll you can cut out, color, and assemble, and a small sewing pattern for a tiny coat

23 Vernelle A. A. Noel
Explode
Created using wire-bending techniques, this sculpture highlights the materials and tectonics in the craft. The continued life and dynamism of lines, light, shadows, and surface with the tangible and the intangible complementing each other.

25 hannah perner-wilson

27 Andy Quitmeyer
Touch Tire
Turn a Tire into a Tough Touch Sensor for Tapirs

29 Daniela K. Rosner
Designing ourselves out of a bind
Thoughts and sketches on the paradox of design.

31 Virginia San Fratello and Ronald Rael
Casa Covida
The Casa Covida, a house for co-habitation during the time of COVID, is fabricated using a light weight robotic set up and takes advantage of local and indigenous materials.

33 Imin Yeh
A Sculpture from the Near Future
A wearable paper sculpture created by Imin Yeh. It is a physical version of the wrist computer illustrated by Robert Tinney on the April 1981 cover of Byte Magazine.
These are dark and isolating times. It is January 2021 in the Northern Hemisphere and the days are short and cold. Civic life has fractured, authoritarianism is on the rise, and it feels like the twilight of representative democracy. We have spent more than 300 days indoors, with no clear end in sight; quarantined due to COVID-19, we long to see our family, friends, collaborators and peers. The joke goes that we are not working from home, but rather living at work. Yet as artists and designers we have been separated from the tools of our trade: our studios, makerspaces, and laboratories are shuttered, so that we are radically limited to what we can make in our own homes. And more than ever, we feel alienated by the mass produced nature of our material culture. How can we stay vitally creative and connected at this moment?

In this context we present Art && Code: Homemade, a free online festival featuring inspirational talks by creators we admire, who work with digital tools and crafty approaches to make things that preserve the magic of something homemade. Our festival features a wide range of practitioners who are exploring poignant and personal new approaches to combining everyday materials, craft languages, and cutting-edge computational techniques: towards the neo-homemade. Our festival offers an extended conversation between creators working with digital tools, crafty materials, and tight constraints to make things that don’t scale. Homemade is resourceful, personal, and community-driven; it’s accessible and grassroots. Homemade means made with care.

This ‘zine was created from contributions generously provided by the Art && Code presenters. It contains designs, thinkables and instructables from their homes to yours. Enjoy!
DOOMSCROLLING

A Paper Animated gif

by Kelli Anderson
1.) Fold so this view is visible.
2.) Fold so this view is visible.
3.) Fold so this view is visible.
Glueing is easiest at this step.
4.) Fold so this view is visible.

I DO NOT

NEED TO

CHECK

TWITTER

TWITTER

I DO NOT

TWITTER

TWITTER

REPEAT
COSMO PATTERN FOR CLAY BEADS
Colonialism is rooted in the planetary imagination which fails to account for histories of structural racism based on geologic relations and the violent dispossession of indigenous lands. This resulted in legacies of destructive cartography and mapping now used in machine vision in space. Problems arise when imagining and understanding these places through posthuman computational tools. The construction and meaning of place through technology needs constant addressing to dismantle terrestrial entanglements spread through the galaxy—the geography of space is based on imperialist knowledge production used against black and brown bodies. Pointing outward begins with pointing to ourselves, and to computations of the past and future. Power and construction reside less at the center and more at the edges of geospatial relations.

Machines view Mars first as an abstraction, transforming numerical data and imaging from telescopes and satellites into blown up worlds, then concrete places. Satellite imagery is inherently political from its use on Earth, recognized by machines as a pixel grid of numeric intensity values that inform classification and speculation on physical properties and processes. Each image depends on the number of pixels—each fixed with complexity per pixel, with the pixel being the smallest controllable physical point represented on a screen.

**ABOVE BELOW** is a series of textiles using computer code to project and reshape satellite images of ice from the Mars Reconnaissance Orbiter, a spacecraft orbiting Mars, from a neural network based on Earth. Pointing to Mars provides a different perspective and scale for imaging terrains. It operates between signifiers of planetary change, BLUE and RED—the desertification of the Blue Planet and colonizing the Red Planet. BLUE and RED both formed by millions of years of water and climate, now captured from above and below. The notion of up or down—above or below—dissolves in space, following its reversal. Both sides of the AI-generated Jacquard textile mirror a technological deconstruction coming from and being on Earth. Pixels and boundaries, real and virtual, are distorted and broken*

*excerpt from Above Below- https://www.fulcrumarts.org/above-below

Sarah Rosalena Brady
A material is a thing other things are made of.

They are a shared language of production and a vector for communication with the world.

A material holds knowledge, can teach you, can impose its own ideas. What does the sweater learn from the sheep, what does the weaver learn from the yarn!
perceiving the materials connects you to the construction and the constructor

digital materials are constructed and layered themselves composed of more primordial digital materials: the file, the pixel, the bit

Nothing we inherit from those materials is neutral - listen to the textures!

written & typeset by Max Büttker in Natalie Lawhead’s Electric Zine Maker. -- Untitled iPad Drawing, David Hockney Kegon Falls, Microsoft Excel, Tatsuo Horiuchi
This is a draft
it describes a woven structure

every column represents a vertical yarn (warp)
every row represents one or more horizontal yarns (wefts)

a black square represents a warp travel OVER a weft

a white square represents a warp traveling UNDER a weft

so this is the resulting structure of that draft
(with two yarns thrown at each weft)
now you try (xerox friendly template)
fill in the draft with black and white and then draw the fabric or draw a fabric then make the draft.
A.I.
Dom!

#perfectfuture
how to view your

**colonizers colonizing colonists**

flipbook

Watch mushrooms grow out of colonist and plant thief Robert Fortune’s eyes.

1. Cut out page along the black lines
2. Put the pages in order
3. Staple or otherwise bind the pages on the numbers (left side)
4. Holding the book by the left/bound side, flip the pages quickly to see the animation
Black movement does not only represent our individual experiences, but it also represents our collective memory, transcending space, time, and white supremacist social structures. It allows us to connect to each other, our ancestors, our deepest selves, and gives us space to communicate to our future. Black movement is a technology, holding the stories of our existence across the Diaspora.
Our bodies and movements are **MORE** than data points and avatars. They hold our **humanity**. It is time for digital spaces and tools to reflect that. It’s time for **ALL** spaces we enter to reflect that.
Instructions:
Cut out outer edges of clothing & doll.
Place clothes on top & fold tabs to hold in place.
For hats, cut a slit across grey line and insert over ears.
Color if desired.
Enjoy!

New Friend

Lovely dress

Formal wear

Farmer garb

Shirt for making

Crown

Money frog shirt

Shorts

Poke & Friend (with alligator clip)
Tiny Coat Pattern

This is a pattern for a small coat that was procedurally generated on P5.js and PEmbroider. When sewed, it looks like this.

Can be scaled to desired size.
Vernelle A. A. Noel

Explode, 2021

Wire sculpture, light, shadows, surface.

Created using wire-bending techniques in the Trinidad Carnival, this sculpture highlights the materials and tectonics in the craft. This image captures the continued life and dynamism of lines, light, shadows, and surface. The tangible and the intangible complementing each other.
Vernelle A. A. Noel
Explode, 2021
Wire sculpture, light, shadows, surface.
I'd like to tell you a story about how......
TOUCH TIRE

Interactions between creatures and computers can be tricky! Wild animal sensors need to be strong, weatherproof, and creature-proof, but most electronics are not.

This easy tutorial lets you turn an ordinary car-tire into a touch-sensitive proximity sensor that’s tough enough for a Tapir!

MATERIALS

ALL CODE AND UPDATES: HTTPS://WWW.DINALAB.NET/TOUCH

This uses the metal mesh found inside many tires as a capacitive sensor.
Drill holes in the shape of two pentagons pointing at each other.

Use jigsaw to cut out sections between the holes.

Loop chain through holes. Make sure chain contacts metal layer.

Connect chain to microcontroller input. Program with Captouch Code.

Since it is just a chain and tire, all sensitive electronics can be kept safely away from the creatures and elements! The tire sensor can detect smaller animals too!

Connect it to trigger speakers, motors, sprinklers, or anything else your animal likes to interact with! You can have as many Touch Tires as Analog Inputs on your Arduino.
When we address problems with solutions infused with the problem...

Daniela Rosner

Whether designing a robot or mending a bag, design takes embracing a subtle paradox of change. We can escape a false notion of the perfect solution to see that everything comes with an imperfect past.
A SCULPTURE FOR THE NEAR FUTURE

A wearable, paper sculpture version of the wrist computer illustrated by Robert Tinney on the April 1981 cover of Byte Magazine.

Imin Yeh © 2021
A SCULPTURE FOR THE NEAR FUTURE
Construction Instructions

**Tools Needed**
- PDF of parts
- Exacto blade and mat
- Scoring Tool (bookbinding awl, darning needle, shishkabob skewer, mechanical pencil with no lead)
- White glue (small brush would be helpful)

**Cut**

**Fold** (helpful to score before folding)

**Step 1**
Cut out all parts along solid lines, score and fold along dotted lines.

**Step 2**
Part B folds into a four sided beveled rectangle. Make sure to cut out the slotted opening for the floppy disc.

**Step 3**
Part C is folded and glued into the inside of Part B, behind the slotted opening for the floppy disc.

**Step 4**
Part A is glued onto Part B. Take care that the floppy disk slot is on the right side of the watch face.

**Step 5**
Part F is glued along the unfinished edge of Part B.

**Step 7**
Construct at least 2 of Part G. Make sure to cut out the two slits (this is where each link will be attached to one another).

**Step 8**
Glue one link onto each of the short, straight sides of the BACK (unprinted) side of part D.

**Step 9**
Glue front of computer (A,B,C,F) to back of computer (D, 2xG).

**Step 10**
Construct as many of part G that will fit around your wrist, link them by threading the long tab through the slits of the previous link, then gluing tab down to the link body. Links should freely move.

**Step 11**
Part H and I are clasps, construct and connect to the two ends of the wristcomputer links once you have made enough links to wrap around your wrist.

**Step 9**
Fold and glue together Part E. Bonus; cut out the small hole in the middle of the floppy.

**Step 10**
Insert disk into wristcomputer.

A Sculpture from the Near Future is a wearable paper sculpture created by Imin Yeh. It is a physical version of the wrist computer illustrated by Robert Tinney on the April 1981 cover of Byte Magazine.

Imin Yeh (www.iminyeh.info) 2021
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