

CONTENT WARNING & CoC

- + We WILL facilitate discussion and imagination around sex; we WON'T be covering sexualised imagery.
- + We want to ensure everyone feels comfortable and included in this shared environment. Before we start, this moment is an opportunity to check in yourself or your guardian before we continue and make a call about how or whether you would like to experience our presentation.
- + This talk is going to be archived, so you will be able to view it at a later time if you so wish.
- + Be Considerate
- + Be Respectful
- + Embrace Curiosity.
- + Be mindful of the needs and boundaries of others.
- + Acknowledge the difference between intent and impact.
- + Make no assumptions.
- + Use all-gender inclusive language.
- + Confront harassment and reduce harm.
- + Embrace your mistakes, then, move forward.



What's the Buzz About?: The Rise of Open, Personal Sex Tech

LAURA LYTTLE + ALICE STEWART

LAURA LYTLE

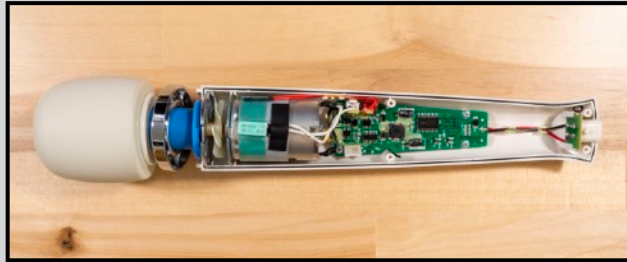
🌴 Los-Angeles based EE

👨‍🚀 Former drone wrangler at USC & NASA's Jet Propulsion Laboratory

✍️ Sex tech design blogger

👁️ Enticingly hireable... 👁️

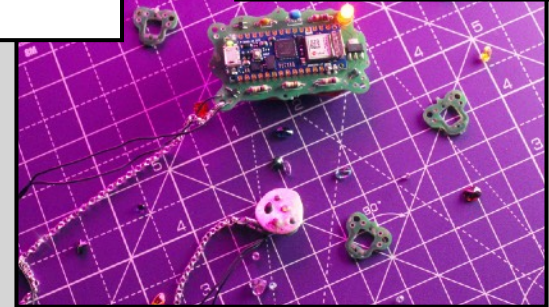
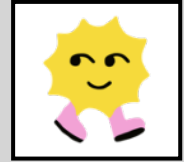
+ Website: [Laura.dev](https://laura.dev)
+ Blog: [InsideSexToys.com](https://insidensextoys.com)



ALICE STEWART

- + Amsterdam / London-based
- + Founder of Touchy-Feely Tech
- + Creative technologist & lecturer (Royal College of Art, University of the Arts, School of Machines)

- + IG: [@alicestew.art](#) Twitter: [alicestew_art](#)
- + [@touchyfeelytech](#)



AGENDA

- + Hi!
- + State of the Industry
- + What Matters?
- + Spotlighting the Open Source Sex Tech Scene
- + Where Open Source can help
- + The Future...

WARM UP

- + When you think of DIY sex tech, what comes to mind?
 - + Is it messy?
 - + Is it sexy?
 - + Is it safe?
 - + Can you discuss it with a friend?
 - + Who is it *for*?



STATE OF THE INDUSTRY

+ What the press thinks

Hackers could access smart sex toys and burn users by 'weaponising' devices

BUZZING! Sex-mad geeks create 'robo vibrator' that learns how to give 'perfect orgasm'

MOTHERBOARD
TECH BY VICE

This Animal Crossing-Enabled Buttplug Will Let You Hook Up In-Game

TECH CYBERSECURITY

Internet-enabled male chastity cage can be remotely locked by hackers

It's the intended use case, just not the intended user

By **James Vincent** | Oct 6, 2020, 11:32am EDT



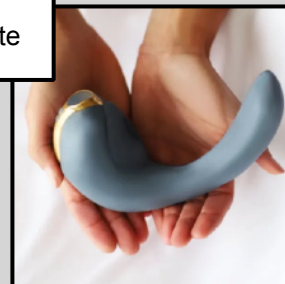
STATE OF THE INDUSTRY

+ Influence of Open Source on every scale



Lovense

Corporate

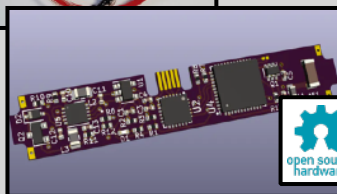


Lora DiCarlo

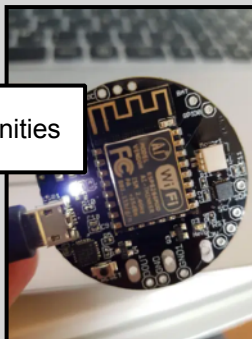


The Nogasm

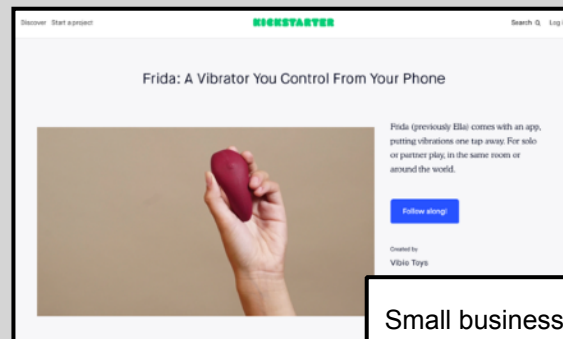
Grassroots communities



Space Buck's Double-Oh



Body Interaction BI2



Vibio Toys

Small businesses

... and some things that have been around forever

WHAT MATTERS?

- + Having fun! Engaging with the making process opens up a healthy space for exploration.
- + Innovating freely in an industry still rife with startups and corporate churn.
- + Serving the diversity of human identities, imaginations, or bodies out there.



Touchy-Feely Tech Workshop
@ The School of Machines, Berlin

"...designing a vibrator is not just about designing the shape and functions of the object itself, but about designing a space for exploration, for sharing knowledge, for asking questions, and for demanding a respectful and open attitude to a diversity of sexual desires and experiences"

— Marie Louise Juul Søndergaard, *Staying with the Trouble through Design: Critical-feminist Design of Intimate Technology* (2018)

Our Values Matter.

- + An open source community that just saw the reinstatement of Richard Stallman to the FSF board must put its own house in order and actively reject the use of sexuality as a weapon before attempting to interface with it as a productive tool.
- + Stakeholders hail from vulnerable demographics, and bad experiences leave a lasting mark

*“foster technological knowledge and encourage research that is **accessible, collaborative and respects user freedom**”*
— Open Source Hardware Association

SPOTLIGHT

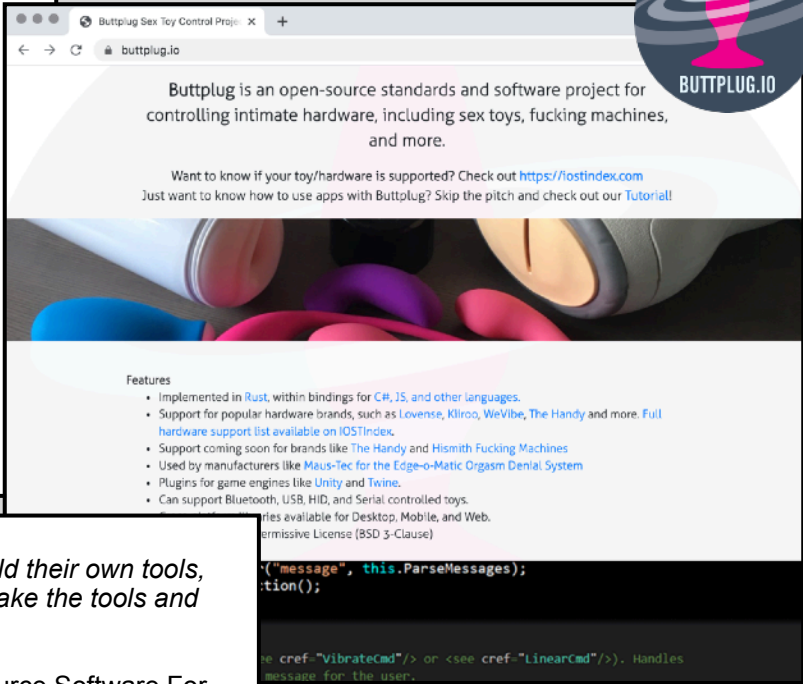
- _____

"We want to help these communities build their own tools, they're the ones with the experience to take the tools and build what they need."

— Here's Why We Need More Open Source Software For Buttplugs (Vice)

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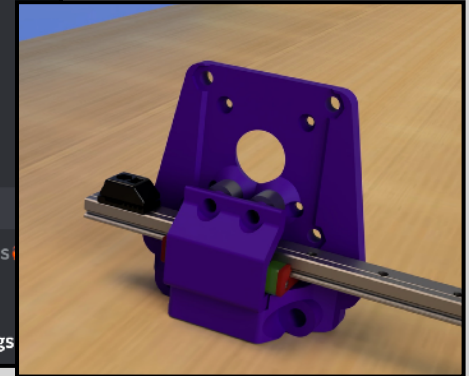
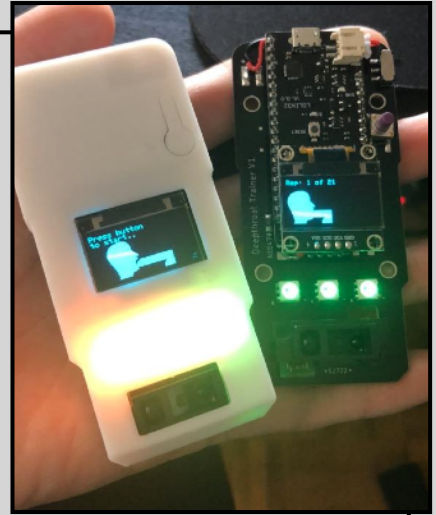
SPOTLIGHT

- + Kinky Makers Community
 - + Working collaboratively on a number of DIY & Open Source Sex Tech projects.
 - + Open Source Sex Machine (OSSM)
 - + Deepthroat Trainer
 - + Active Discord and growing Wiki of ideas

"My goal from the beginning has been to provide a place where people can discuss and try new things. I know the one thing that helped me develop my talents was experimentation. I have always found local hackerspaces too restrictive, and often have a high barrier to entry."

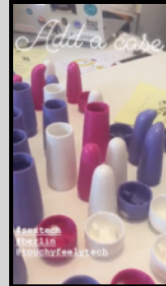
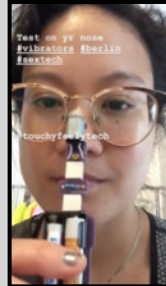
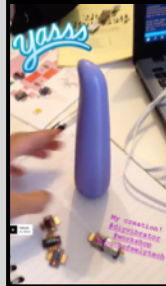
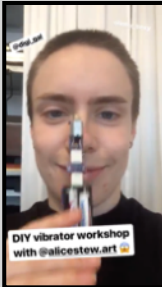
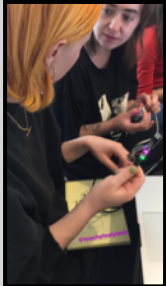
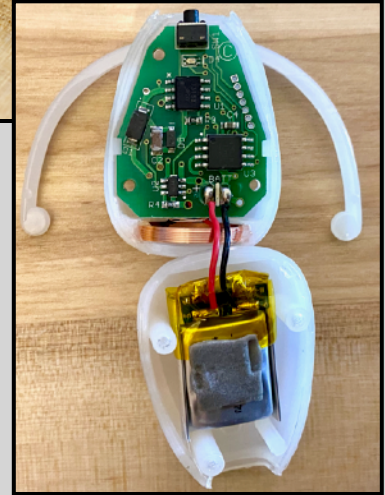
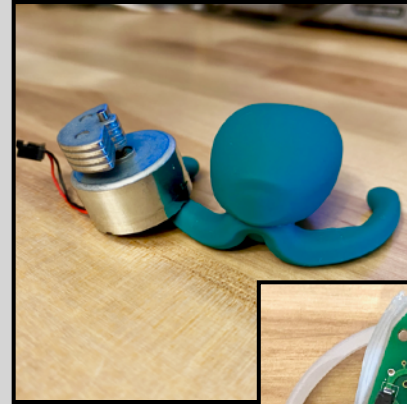
— James from Kinky Makers

kinky-wiki
🙄 need-help
🤔 what-i-am-working-on
🧠 interesting-ideas
🚫 nsfw-images_idea-dis...
🗨️ kinky-discussion-nsfw
📖 highly-technical-ch... 👤
🗓️ group-design-week-🤖
🗨️ sex-positive-arts-disc...
🗨️ sex-positive-arts-shar...
3d-printing
🎮 laser-pew-pew
🤖 robotics
🚫 it-emissions
🧸 one-toys
📰 breaking-news
🗨️ controversial-topics
🏪 selling-stores🤖
🤖 hello-just-bot-things



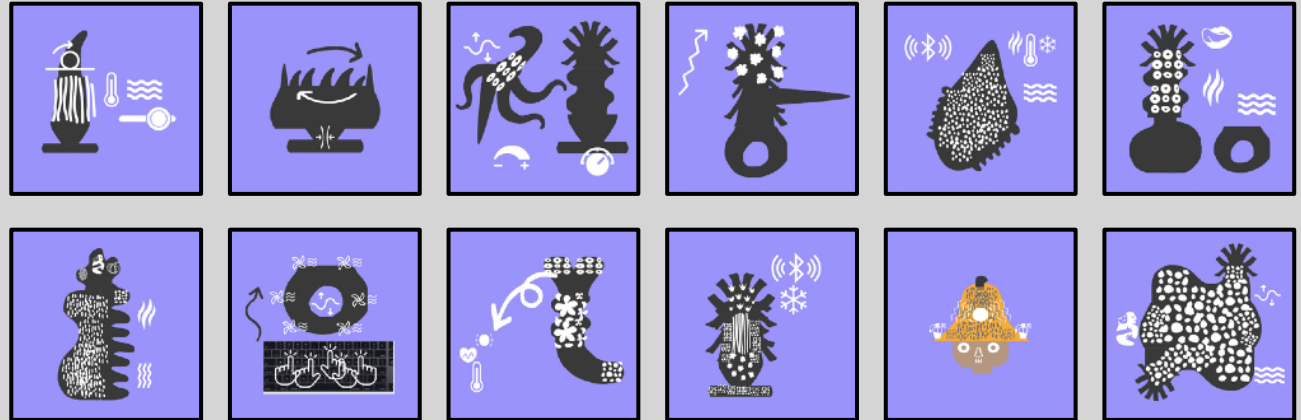
WHERE OPEN SOURCE CAN HELP

- + Accessibility
- + Security
- + Inside Sex Toys-- forcing closed-source wide open
- + Sex tech objects that people care about and feel connected to are sexier
- + Tech as a tool for destigmatizing and exploring sex



RETHINKING WHAT'S POSSIBLE

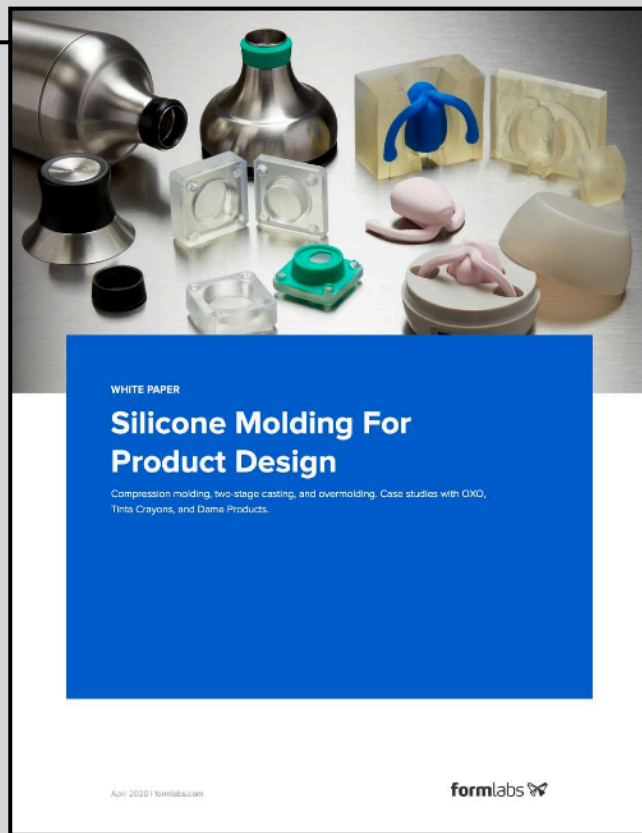
- + Framing the design process as fantasy or speculative helps to bring down barriers of what we expect from our tech.
- + Desire to be “**more**” for a partner, departure from **genital stimulation**, body **augmentation** and **extension**, tackling **societal challenges**.



Touchy-Feely Tech
Virtual Sex Tech Design workshop

WHAT WE WANT

- + Open source as table stakes for companies selling IoT hardware.
- + Acceptance of sex tech in tech & investment spaces
- + Open source community where ALL people feel safe enough to exist and make sex tech.
- + Mutual awareness between DIY and OSHW
- + Some really wild stuff we can neither imagine nor show ;)



Formlabs White Paper: Dame Products

WHAT DO YOU WANT?

HOW YOU CAN GET INVOLVED

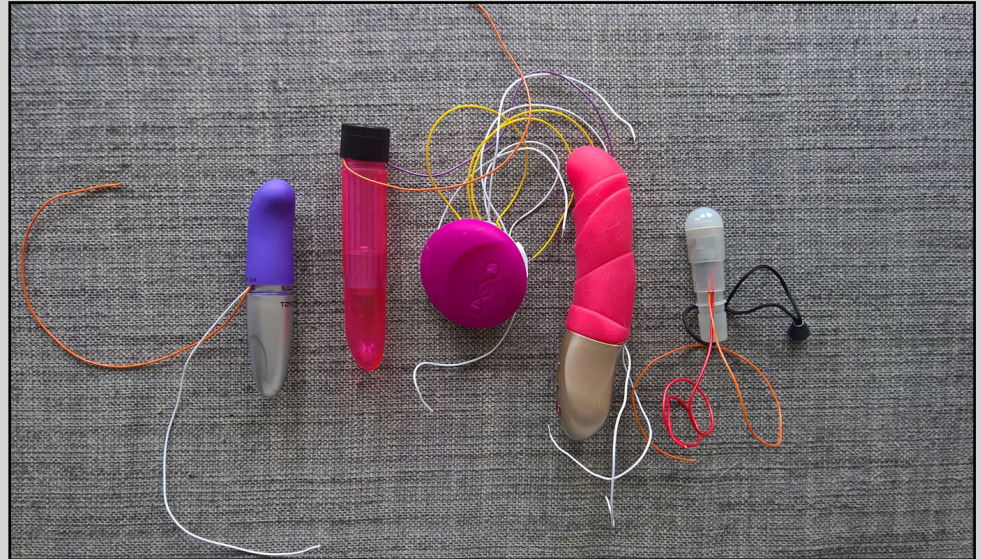
- + Touchy Feely Tech Hackathon!
 - + hack.touchyfeely.tech
- + Stomp some bugs for Buttplug.io!
 - + github.com/buttplugio
- + Join a Discord!
 - + Kinky Makers
 - + Touchy-Feely Tech <https://discord.gg/Agt6dfjt>
 - + ... and many more
- + Peruse a Subreddit!
 - + [r/bdsmDIY](https://www.reddit.com/r/bdsmDIY) (18+)





Thank you!

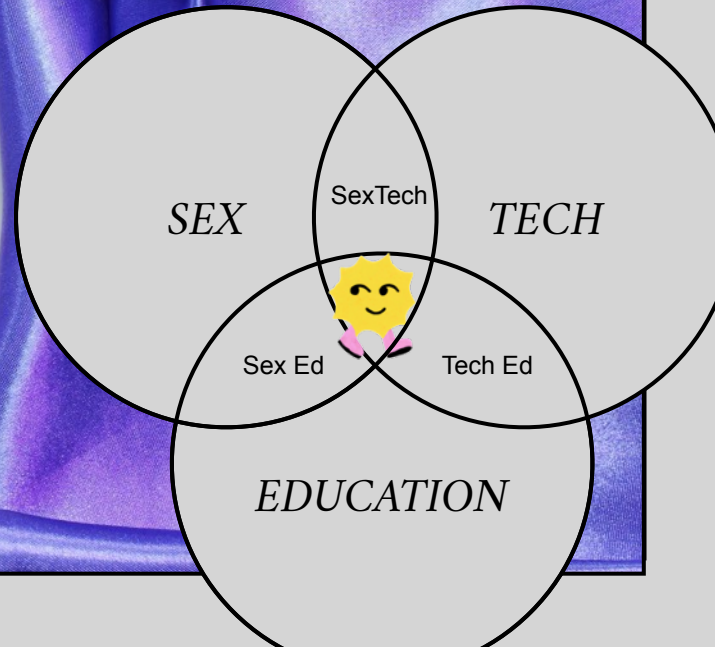
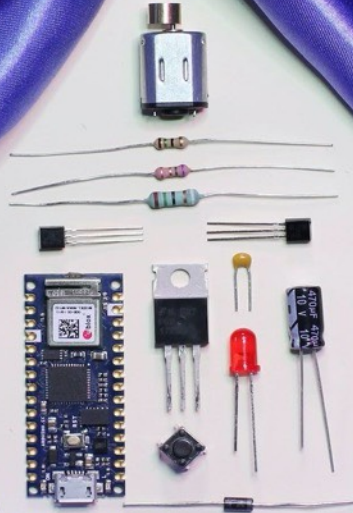
- + The following slides are random/from the old deck but keeping just in case :)



TOUCHY-FEELY TECH

ALICE STEWART

+ DIY Vibrator kits & workshops



TOUCHY-FEELY TECH



Before you get started...

Electricity is a form of energy resulting from the existence of charged particles, either statically as an accumulation of charge or dynamically as a current.



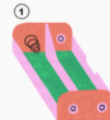
Resistance
Measured in Ohms Or Ω

When the current in a circuit is limited with a resistor it will affect the thing you are trying to power, such as dimming a light or slowing down a motor.



Inside your kit
Your kit contains a number of different electronic components that are necessary to keep the circuit functional and safe!

1) Battery Pack
Your site requires 3 volts to power the motor, so two 1.5v AAA batteries are placed together in series.



Current
Measured in Amperes Or A

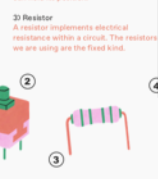
An electric current is a flow of electric charge. When an electron (a negatively charged particle) moves from the negative side of a power source such as a battery to the positive side, this is called current.



2) Button
Used to connect or disconnect the flow of electricity. The button in this circuit is a tactile push button, which means it can hold its position.



3) Resistor
A resistor implements electrical resistance within a circuit. The resistors we are using are the fixed kind.



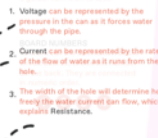
How to assemble your kit...

Voltage
Measured in Volts Or V

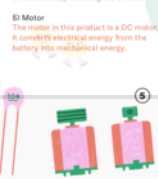
Voltage is the pressure from an electrical circuit's power source that pushes the charged electrons (current) through a conducting loop, enabling them to do work such as powering a motor.



4) Capacitor
Collects and stores energy like a tiny battery. Motors can sometimes cause voltage spikes, and the capacitor smooths this, protecting the circuit.



5) Motor
The motor in this product is a DC motor. It converts electrical energy from the battery into mechanical energy.



VIBRATION TYPE
A vibration motor has an imbalanced weight attached to it that creates the vibration, and the size and density of the weight will determine the type of vibration created. The smaller weight creates a buzzy vibration, where the heavier weight is more rumbley.



VIBRATION STRENGTH
The colour bands on the resistor are used to calculate the resistance value in Ohms.



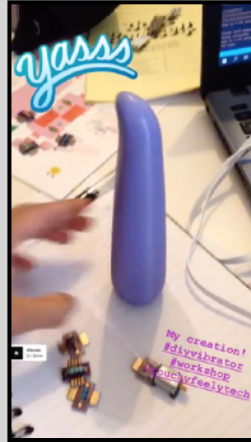
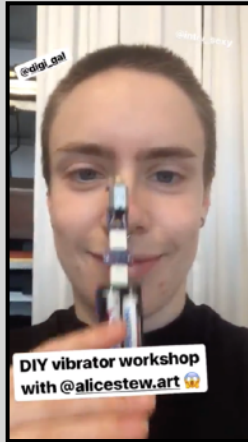
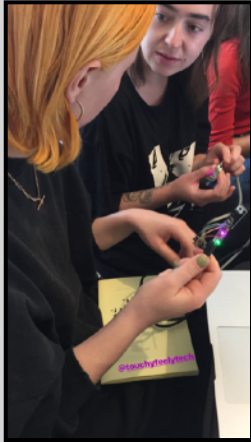
RESISTANCE
The higher the resistance, the less powerful the motor.



CONNECTORS
These conductive blocks make a physical and electrical connection between the circuit boards.



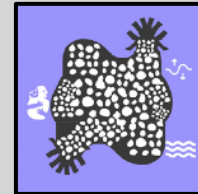
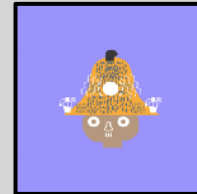
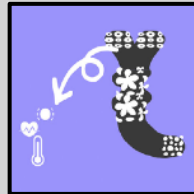
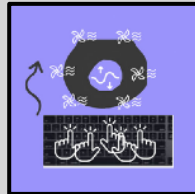
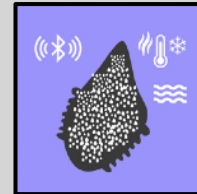
TOUCHY-FEELY TECH



London, Amsterdam, Berlin, New York

TOUCHY-FEELY TECH (ONLINE)

- + Framing the design process as fantasy or speculative helps to bring down barriers of what we expect from our tech
- + Desire to be “**more**” for a partner, departure from **genital stimulation**, body **augmentation** and **extension**, tackling **societal challenges**



EVOLUTION OF SEX TECH

- + Using Sex Tech as an example of intimate tech, however it's worth noting that Sex Tech is not the only type of intimate tech
- + Design approaches evolve with reducing limitations of technology

Non-binary approaches

Hands-free and wearable body extensions

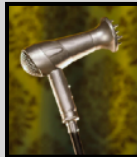
Remote controlled

Vibration is the main type of stimulation

Handheld, phallic shapes



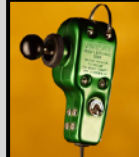
33,000



1880



1930



1940



1950



1970



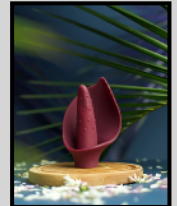
1980



1990



2000 - present day



FACILITATING (BETTER) INTIMATE INTERACTIONS

- + Exploring what technology's role in human intimacy should or could be
- + Using remoteness as an opportunity, not a hindrance



buttplug.io software integrating with Animal Crossing



Aurélien Fache: Connecting a vibrator to the ISS API

DESIGNING „EROTIC AGENTS“

- + (Erobots are including but not limited to)...
“erotic virtual or augmented entities, chatbots, robots, avatars, as well as their enabling interconnected, multi-layered, and multi-agent systems.”
— Simon Dubé & Dave Ancil, Foundations of Erobotics (2020)

Can critical design and maker practises, including customisation and collaborative design, offer a new perspective on what “makes” an erotic agent?

Human-like „designs“



Today

Intangible / Pure UX



Tomorrow

“One of the most powerful human capabilities relevant to designers is the intimate incorporation of an artifact into bodily practice to the point where people perceive that artifact as an extension of themselves; they act through it rather than on it”

— Scott R. Klemmer, Björn Hartmann, Leila Takayama,
How Bodies Matter: Five Themes for Interaction Design
(2006)

SPOTLIGHT

- + The Mod by Comingle.io
- + Patents suck
- + As with any open source product, you still need good UX

