C R E A T I V E
L E A R N I N G
+
W E A R A B L E
T E C H N O L O G Y

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Overview

This session is about design, technology, and creative learning. We will cover:

Creative learning
Wearable Technology
Ideation + Making

With a combination of lecture, discussion, and making

What is wearable technology?

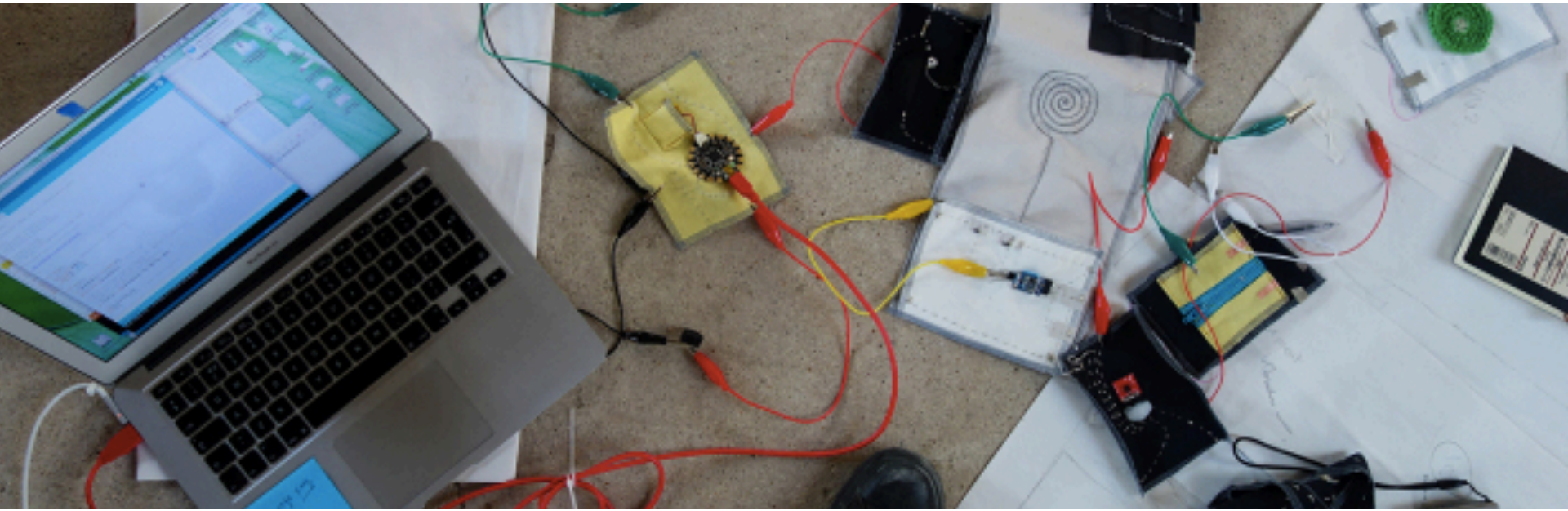
A
Chronological
Compendium
of
Watches

Dava Newman, MIT

Massage Me by Kobakant, 2007 (http://www.massage-me.at)

Spider Dress by Anouk Wipprech,) 2014 (collaboration with Intel, see https://vimeo.com/114828162

Human Breadboards Research



Questions:
What do we learn when we are leaning with reference to people, the body, the space around us?
How do you go beyond the swatch?
How do you build wearable tech in to the curriculum in a meaningful and critical way?
How to focus on process and learning, and not the product?

http://blog.beccarose.co.uk/2015/09/08/human-breadboards/

"A boarder vision of technology education demands that socio-political, cultural and environmental facets of the 'multidiscipline' be integrated so that the subject is not simply focused on preparing future technologists but rather technology capable critical thinkers"

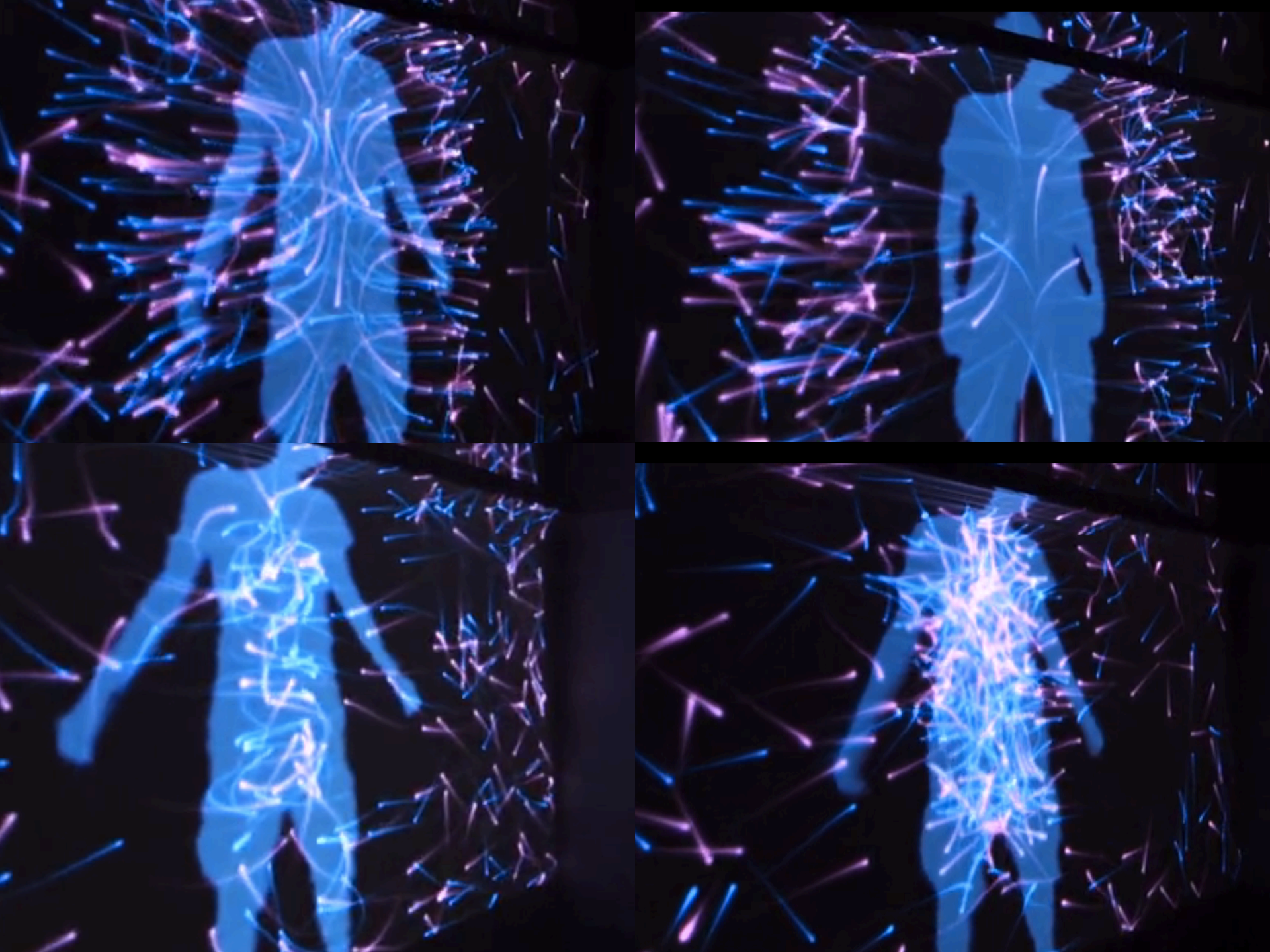
Leo Elshof (2009). from Toward sustainable practices in technology education. International Journal of Technology and Design Education, 19(2), 133-147.

Imogen Heap MiMu Gloves see: http://theglovesproject.com/

https://youtu.be/h4V8uklXCjg?t=5m34s (video in action)

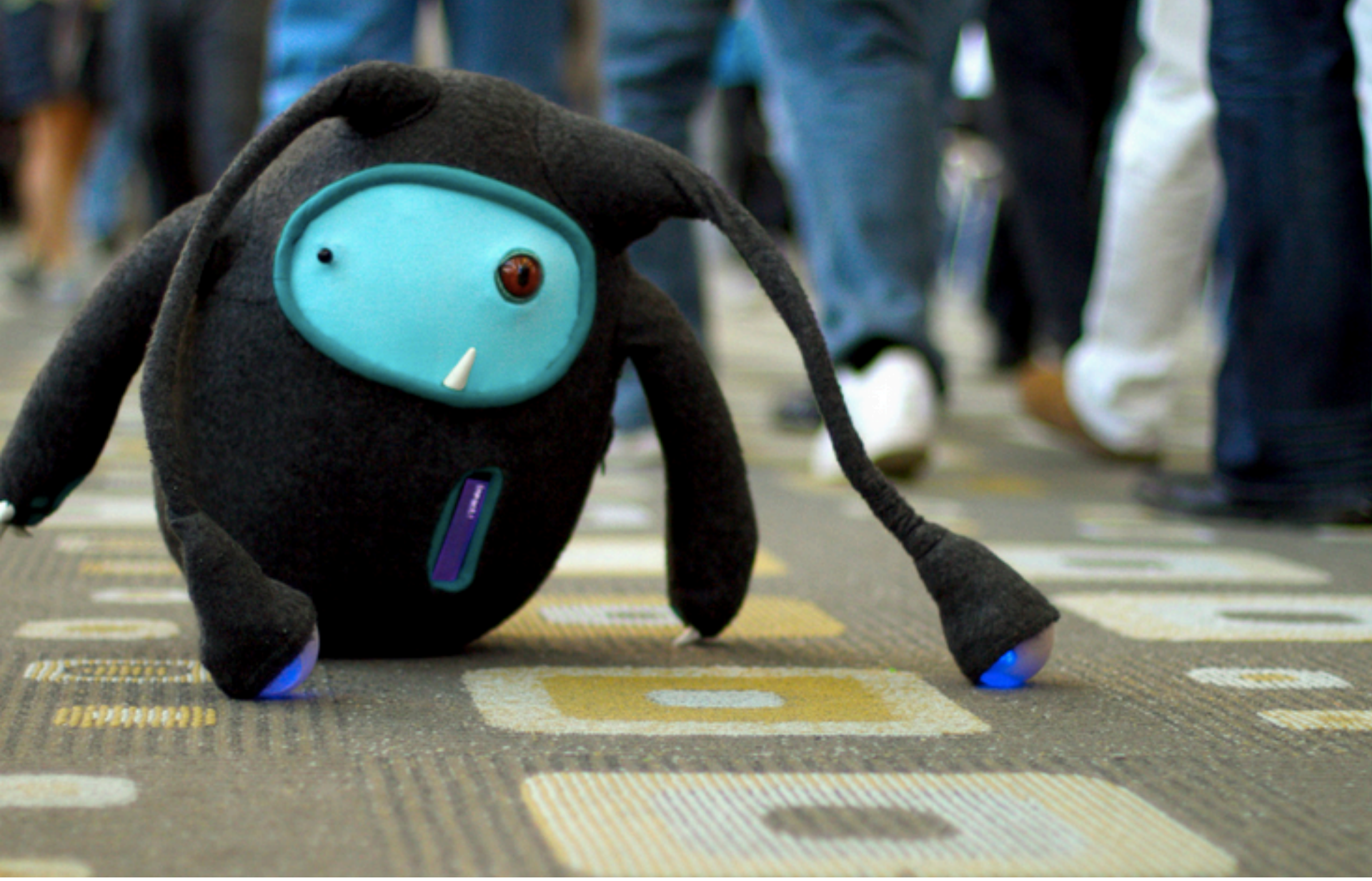
Drawing Breath

See video: https://vimeo.com/119214347



Rain Music!

https://www.youtube.com/watch?v=AFpLCV_KDyQ



Tweeture
-making of http://pervasivemediacookbook.com/157/tweeture/

No animals were harmed in the making of this movie!
https://vimeo.com/55880815 @1.03

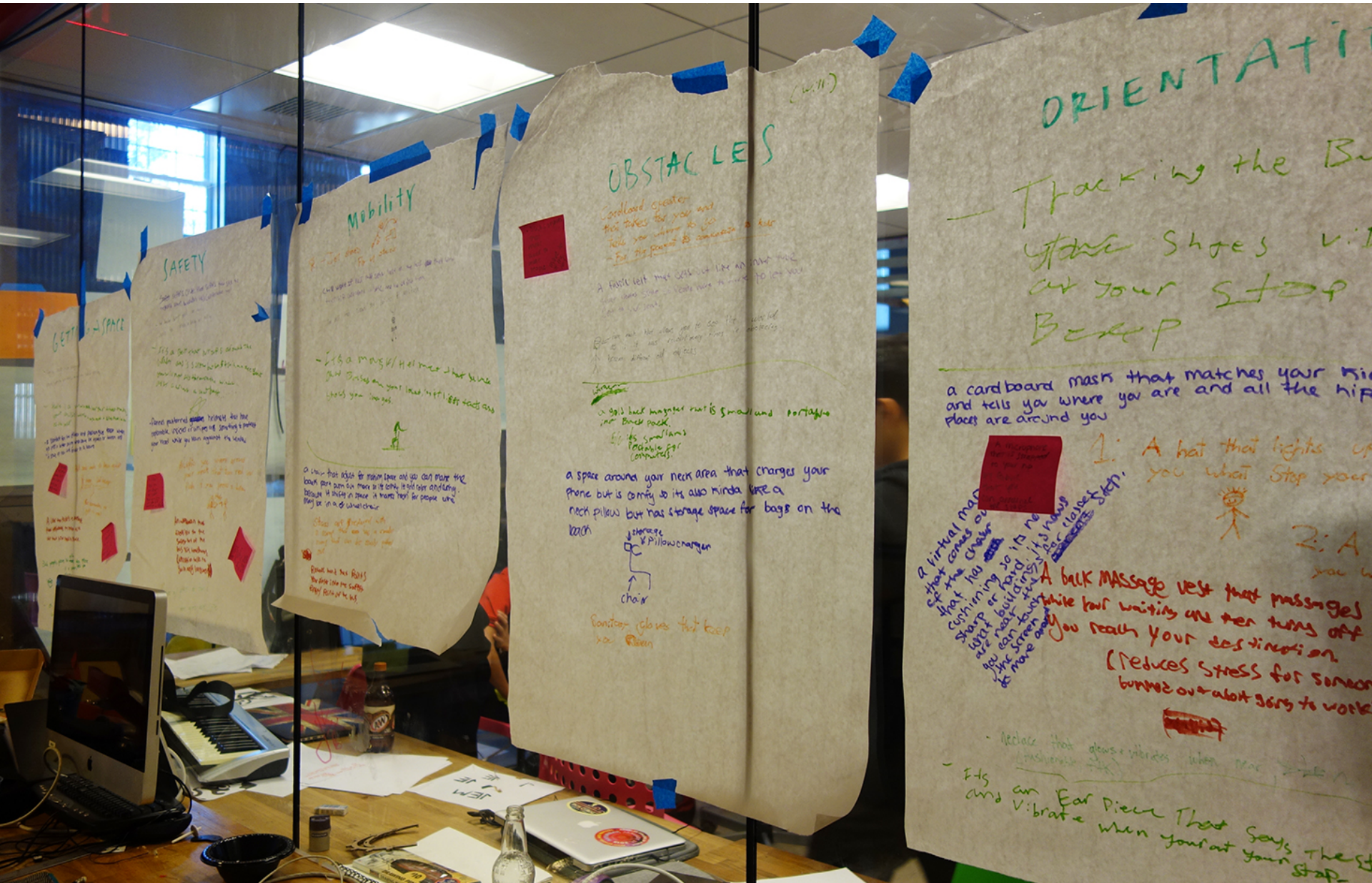
Interactive Bus:

technology
+
storytelling

NuVu, 2015

Initial Research

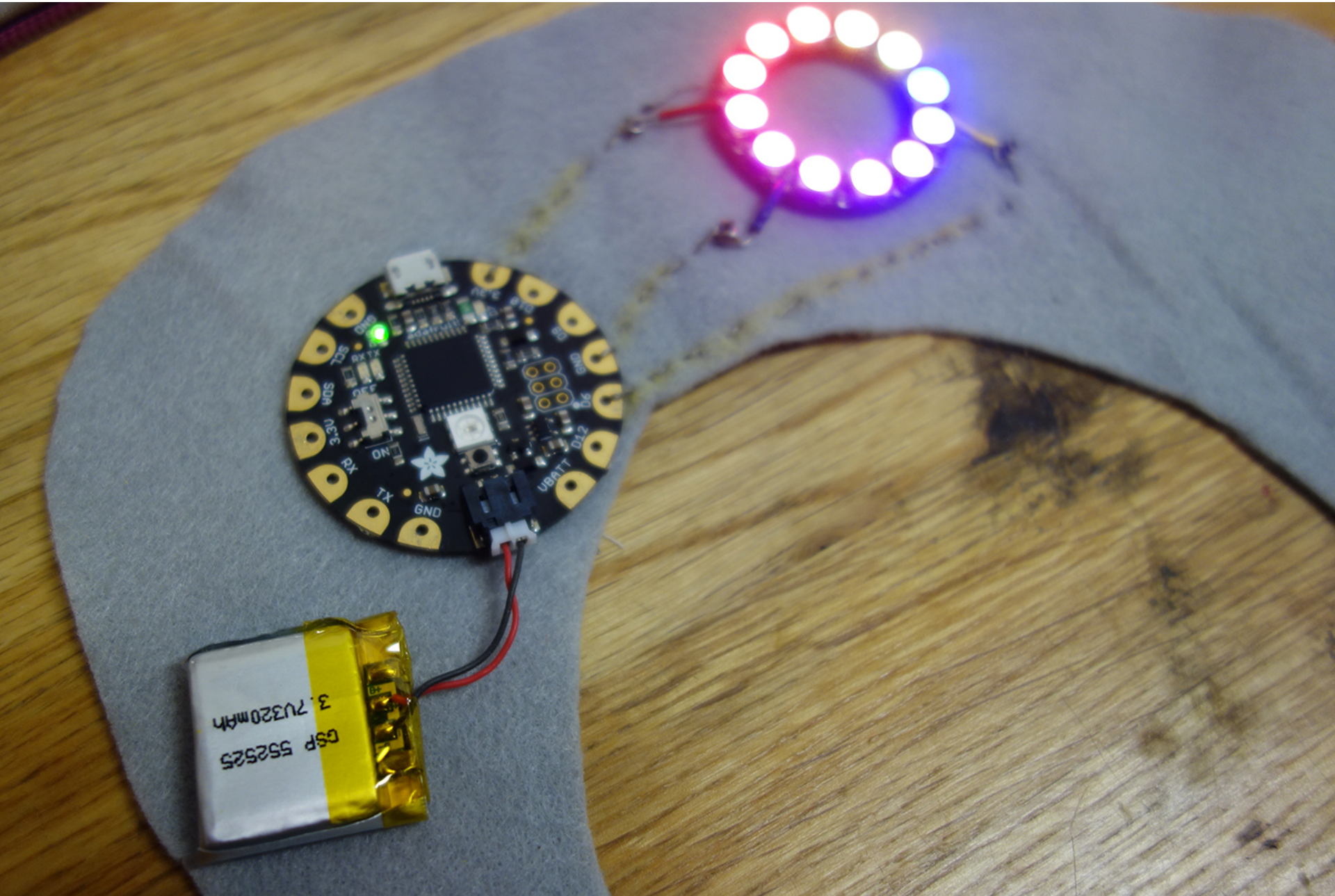
Site visits, documentation, role play, photos, written response



Development

discussion, further research, rapid prototyping

Prototype


GND
SCL
SDA
3.3V
RX
TX
GND
VBATT
D12
D6
D9
GND
D5
D2
D3
D4
D1
D0
3.7V320mAh
GSP 552525

Development

Using technology with social implications:
empathy, technology for solving problems, and an active engagement with capability of technology (beyond consuming)

What is more, it is student centred and exciting to learn!

"normally in physics class I will do anything to avoid Arduino and all that technical stuff, but I would actually do it now that I know how to create something new"
NuVu Student, 2015

In this session we will prototype an interactive wearable device

Activity 1:

quick thinking design challenge

AREA OF BODY

AREA OF BODY

EXPERIENCE / INTEREST

AREA OF BODY

EXPERIENCE / INTEREST

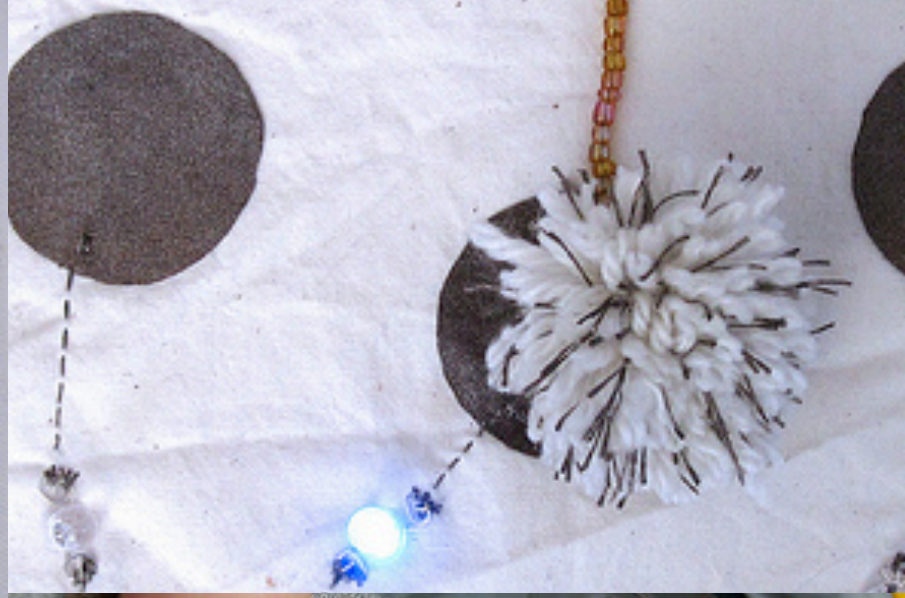
EMOTION

AREA OF BODY

EXPERIENCE / INTEREST

EMOTION

DEMOGRAPHIC



materials now accessible can be used by designers, makers and DIY level –not just in industry

Activity 2:

build circuits

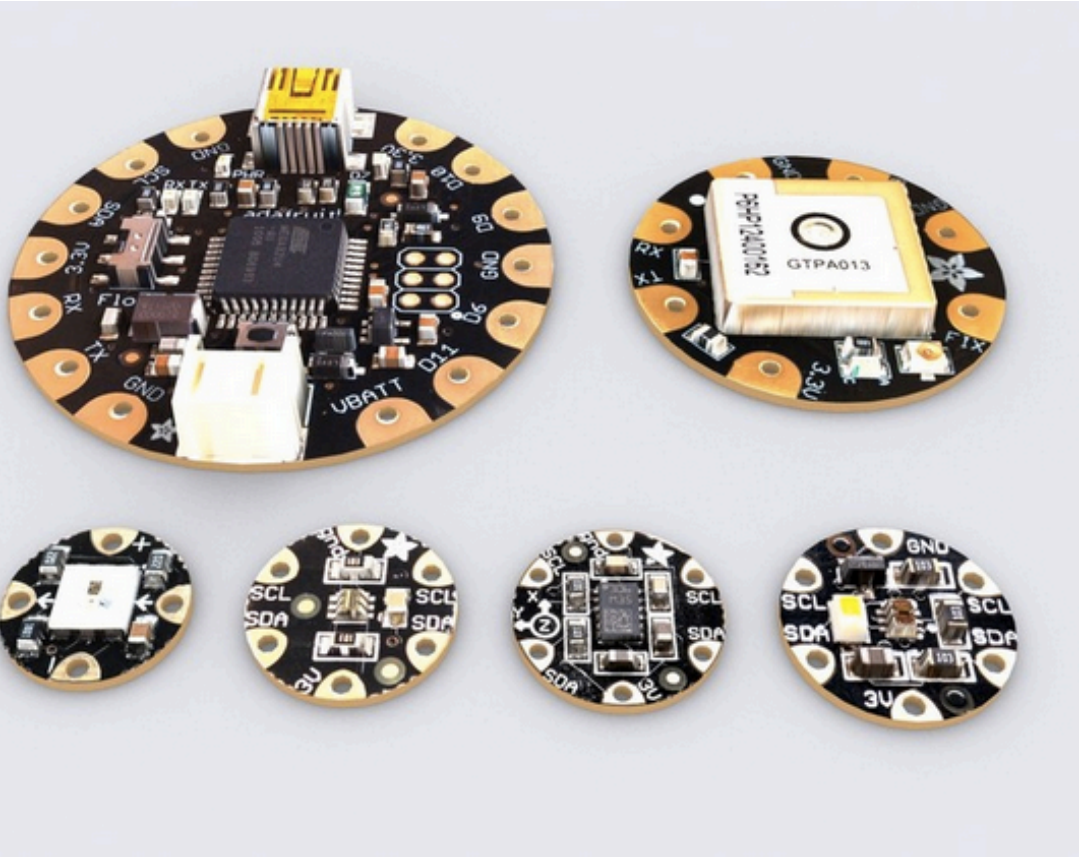
test materials

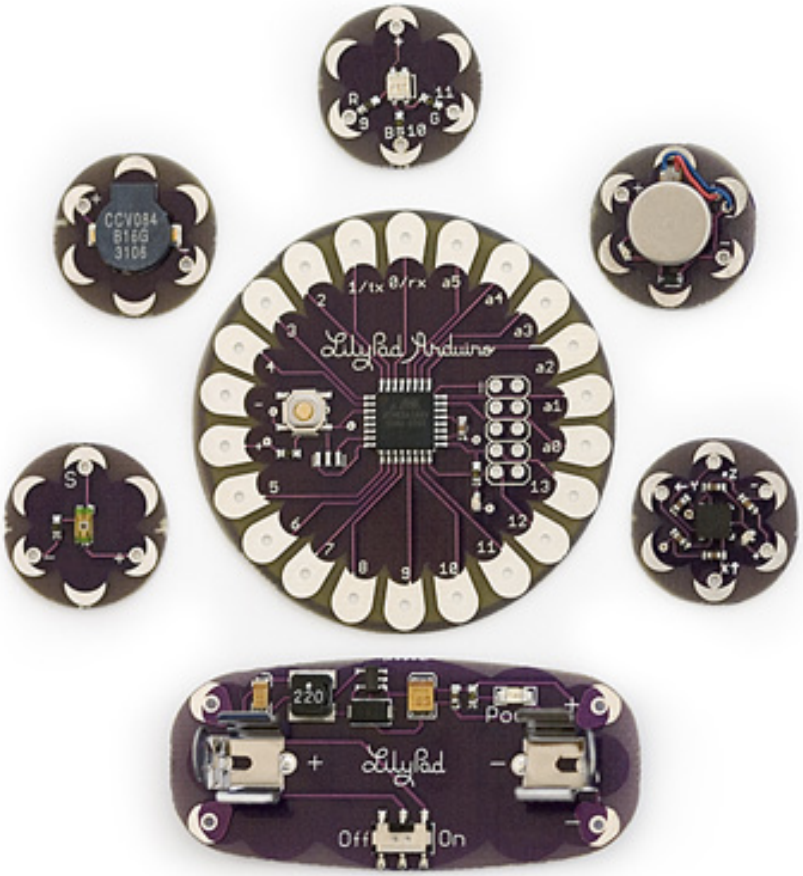
sewing demo

Communicational Onsie

Friendship Memory Cuff

Programmers (which ones to choose?!)





Activity 3:

3d sketching and rapid prototype

flora / lilypad demo

develop story-making and narrative

present or perform

M&S

Where to buy these materials?

<u>Europe</u>
Kitronic
Plug and Wear

<u>US</u>
Sparkfun -20% discount for educators
Adafruit –good for etextiles (i.e. flora board, neopixels)
LessEMF –conductive fabrics
Jameco –conductive thead

And amazon / ebay often have some materials

Links for making ideas

How to get what you want	http://www.kobakant.at/DIY
Conductive pom poms	http://www.instructables.com/id/Laser-Cut-Pom-Pom-Pressure-Sensors/
MIT high low tech	http://highlowtech.org/
What is an Arduino?	https://www.youtube.com/watch?v=pnf8ojsK6S4&feature=youtu.be
Makey Makey inspiration	https://docs.google.com/document/d/1_V5jCHmcdvQTC45uTBJtKna1rA9s2FYfT9zqgB_draY
Paper Circuit Materials list	https://docs.google.com/document/d/1FG8gmPqF3NS_vVanF4wa2y3CKUjLLqvlcKYemzPagnA/edit?usp=sharing
Sparkfun guide to paper circuits	https://learn.sparkfun.com/tutorials/the-great-big-guide-to-paper-circuits
Laser loom	http://www.thingiverse.com/thing:120555