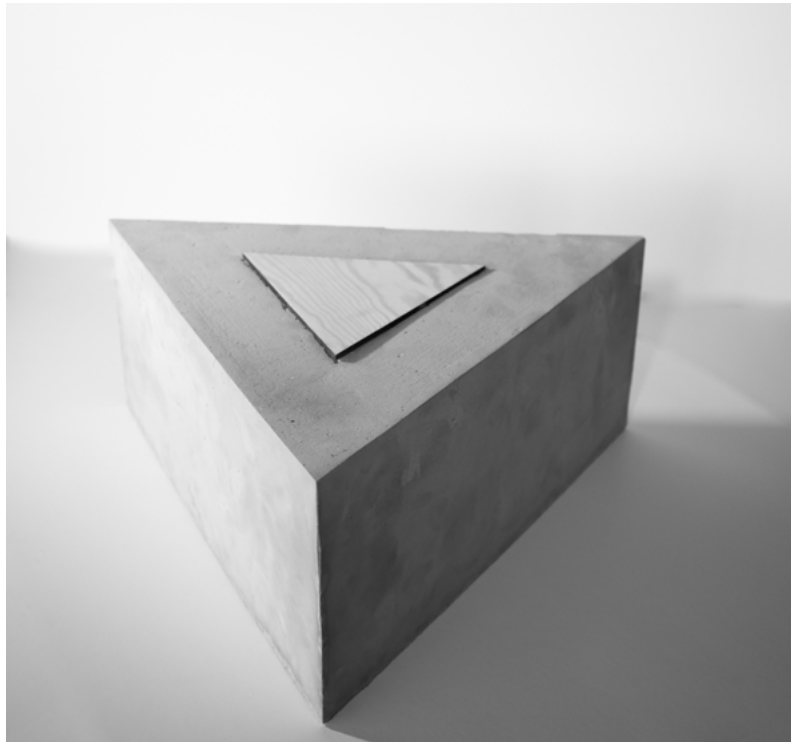
TVINGA

ARE WE HEADING TO A FUTURE WITHOUT PHYSICALITY AND MASTERING ?

A family of digital artifacts created out of concrete and designed to be hard to master, so to highlight how everyday devices are making things effortless and frictionless. But what if we needed that little friction ?

ALARM CLOCK ^

An alarm clock which in order to be turned off requires the user to choose between a long complex digital aid or lifting the clock itself. You could master the digital motion over time but wouldn't you rather just use force for a quick response ?



MOUSE ^

It behaves as a regular mouse with the exception that, due to its weight it requires high levels of force and precision, and in order to be clicked the wooden surface has to be punched with force.

Starting point: Applying force and Mastering - we started looking where and when in our everyday life, we are actually required to use and to master force.

Doing so, we soon realised how most of the objects we interact with during the day are turning digital and or automated. Doors and stairs are the most obvious, but also calendars, calculators curtains vacuum cleaners and so on. In most situations we are no longer required to make any effort; everything around us is getting effortless, frictionless. This makes things more handy, easy to use and even more accessible, but what if we needed that friction, that little effort, what if we are losing the physicality in our everyday life?

From this point we started to explore both, the future and the past.
How a future without physicality would look like?
Will we be witnessing a deskilling phenomenon?
What were tiny moments of physicality that technology took away?
Can we somehow reintroduce them?

Those questions led us to our framing: Create a digital artefact that highlights a future without physicality and/or mastering.

During this process we discovered 3 potential directions for further exploration.

"A lot of effort for little result" - Most of our everyday tasks these days require us to use very little force for achieving big results. What if every day we had to use a lot of effort, but effects of our work were almost unnoticeable. In this case our concept moved from sketch through quick prototype and to our final product. We reimagined the computer mouse as a large and heavy object, requiring the use of the body to interact with it. A quick sketch using thermocol and an old mouse helped us move towards our final object made of concrete.

"Physical vs digital"- In the last few years there has been a move of adding a layer of technology over everything around us, in many cases the extra layer being unnecessary. Usually making the simple process much longer and complicated. From the very beginning we wanted to introduce a tool that would represent 2 different ways of solving the problem. You can either do it by using physical force or using a technological aid. We progressed from an initial concept of a box to an alarm clock that offers two options to stop the alarm from ringing.

"Everyday moments of aggression"- Every object around us is turning digital, automatic or even included in other digital products. This is making things more handy, accessible and effortless but also fragile. Because of the fragility we handle objects with greater care and miss on sometimes helpful moments of aggression. We worked on a concept to allow for a socially acceptable way of demonstrating anger/frustration but modifying the materials and form of a regular Feedback Station. Allowing for a punching action to leave negative feedback.

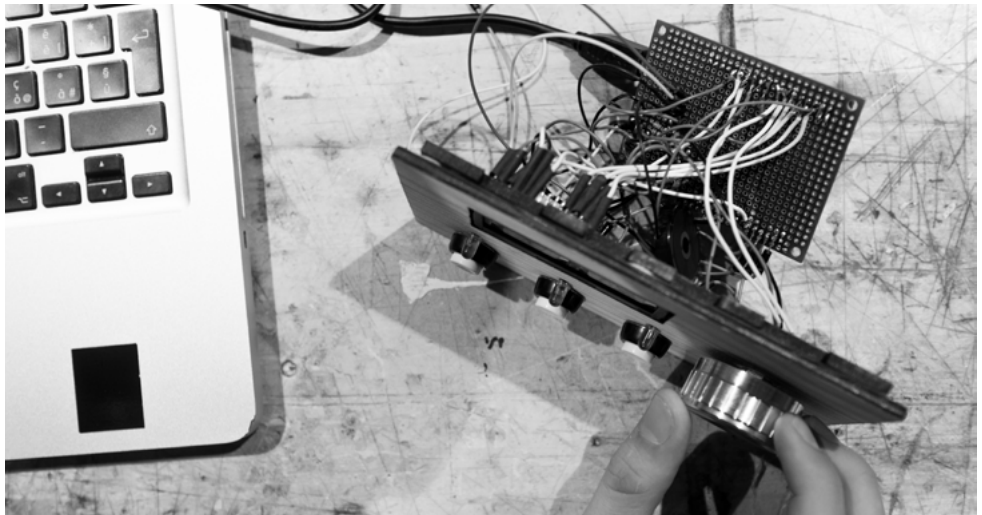
Final result
A family of objects created out of concrete and designed to be hard to use, so to increase the awareness of the lack of physicality previously discussed.

The mouse
First is a computer mouse. It behaves as a regular mouse with the exception that, due to its weight, it requires high levels of force and precision, and, in order to be clicked, the wooden surface has to be punched with force. The shape and the weight of the mouse are designed to invite the user to use both his/her hands. Also, the shape purposely resembles the iconic little arrow which is the digital equivalent of the physical mouse.

The alarm clock
The second is an alarm clock which, in order to be turned off, requires the user to choose between a long complex digital aid or lifting the clock itself. The whole system is designed to be uncomfortable: both the options are purposely hard to accomplish. The digital task increases its complexity each time it is solved, such that the more it is used it becomes more impossible to solve. Lifting the object, on the other hand, is difficult due to its weight and the lack of grips in its shape, but it is always a sure fire and quick way.

Qualities
Both the devices are reinterpretations of everyday objects so to be easily relatable by any user. While the mouse focuses on highlighting the lack of force in our everyday life, the alarm clock wants the user to reflect on the choice of a digital interaction over a physical one, highlighting how sometimes the digital one is not the more effective.

Details for techies
The mouse is indeed a mouse, hacked by attaching the click button to an Arduino with a sensor that detects vibrations. When the vibration reaches a certain threshold the click button is triggered. The alarm clock is made out of an handful of basic components, such as an LCD screen, buttons, leds, a rotary encoder and a buzzer. In order to detect when the device is lifted a light sensor is attached to the bottom. The digital task previously mentioned is a reinterpretation of the game whack a mole. One of the three LED is randomly turned on and the corresponding button has to be pressed within few seconds, if not, the whole game restarts and the alarm goes on. This sequence is repeated only 5 times at the beginning, but each time the game is solved an extra repetition is added.



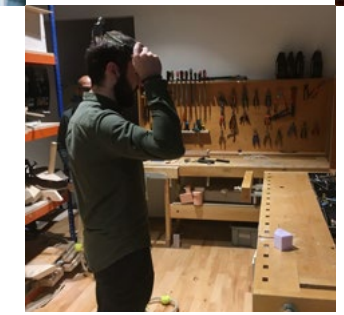
INSPIRATION—

< FINGER GLOVES—REBECCA HORN
Challenging Perception

VS

< QWOP—
BENNETT FODDY
Putting Awareness Into Automated Activities

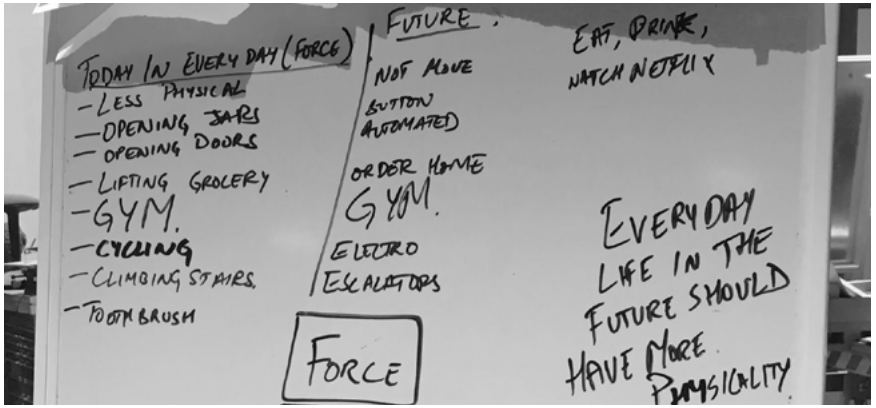
^ Easy to use objects, which lose their physicality
—lack of physicality frictionless future



< BODYSTORMING—
exploring ways of applying force

—Are we losing everyday moments of physicality?

—Are we heading to a future without mastering?



UNDERSTANDING— Through literature

Critical Design

"Critical design is a form of research aimed at leveraging designs to make consumers more critical about their everyday lives, and in particular how their lives are mediated by assumptions, values, ideologies, and behavioral norms inscribed in designs" [1]

Material Speculation

"... material speculation - that utilizes actual and situated design artifacts in the everyday as a site of critical inquiry." [2]

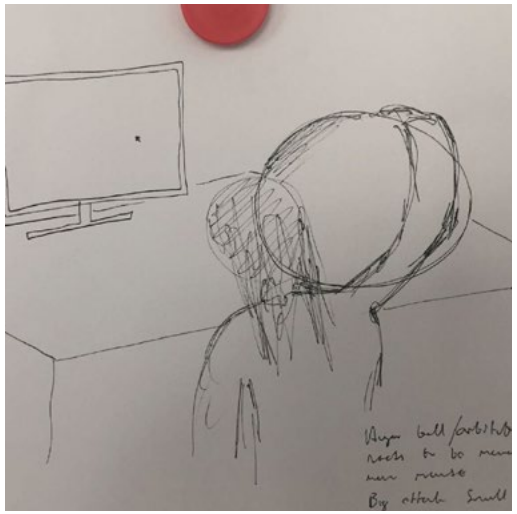
"... material speculation opens the critical functioning of alternative futures in design through the crafting of material artifacts that operate and exist in the actual world"... "It is important for the depth and quality of the emergent possibilities that material speculations be a lived experience rather than simply an intellectual reflection." [2]

[1] Bardzell, J. & Bardzell, S. (2013) What is critical about critical design? Proc CHI '13. ACM.
[2] Wakkary, R. et al (2015) Material Speculation: Actual artifacts for critical inquiry. ACM.

FRAMING—

Create a digital artefact that highlights a future without physicality and/or mastering

SKETCHING— Lot of effort for little result

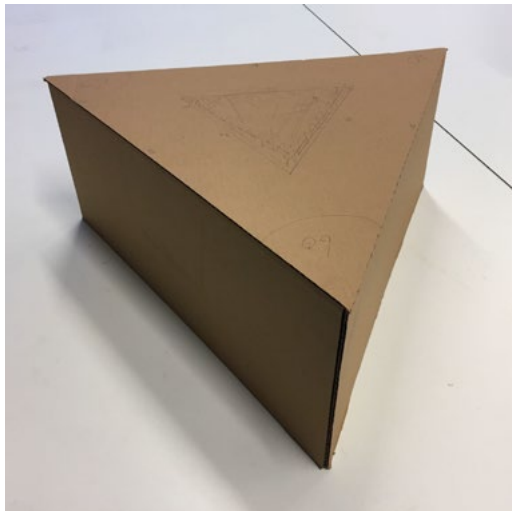


SKETCH—
A concept that came from our ideation -
Put in a great deal of effort for little result
in an everyday task

Material: Pen and paper sketch

SKETCH—
Quick sketch to try out the concept of the BIG
mouse and involving a punching action to click

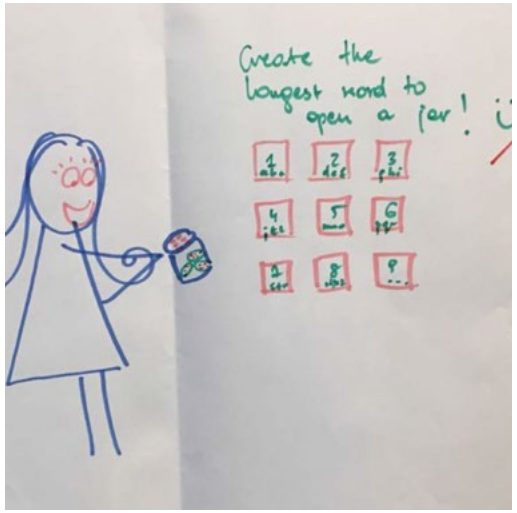
Material: Thermacol, optical mouse and laptop



SKETCH—
A 3D sketch of the look of the final artifact

Material: Cardboard

SKETCHING— Digital v. Physical



SKETCH—
Concept about having the choice to use either a digital way or a physical way to complete a task.

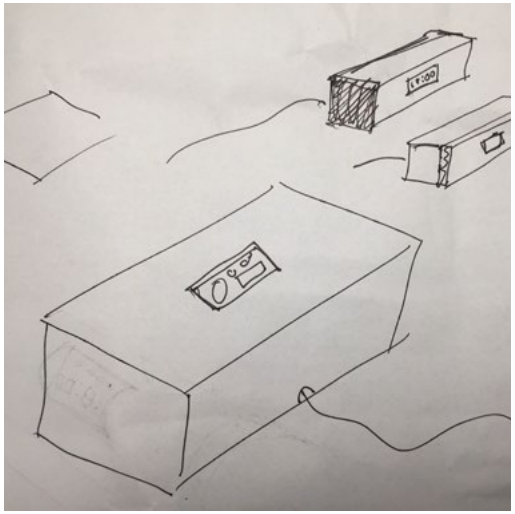
Material: Pen and paper sketch

SKETCH—
Giving the concept a physical form, using Wizard of Oz.

Material: Cardboard and rubber keypad

PROTOTYPE—
Working prototype of the previous sketch with a working digital module.

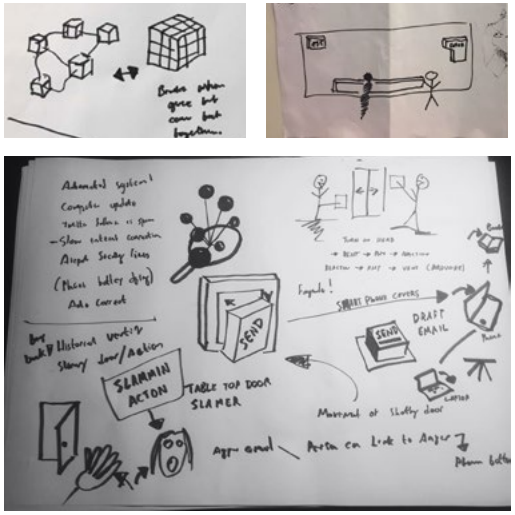
Material: MDF, Arduinho, LEDs, Buttons



SKETCH—
Sketch of our final digital artifact.

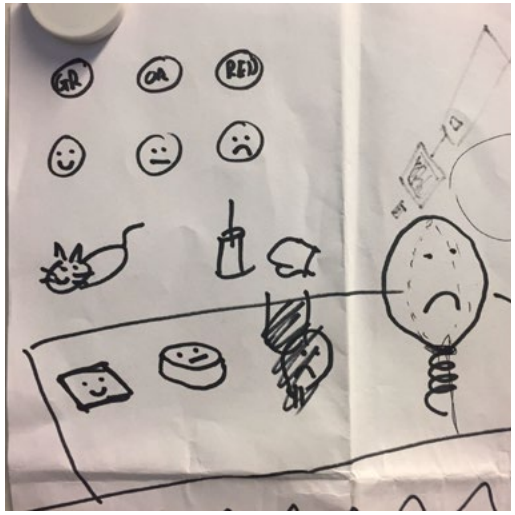
Material: Pen and paper sketch

SKETCHING— Everyday moments of aggression



IDEATION—
Using force as a means of venting in benign ways. Using aggression in a setting which would be socially acceptable

Material: Pen and paper sketches



SKETCH—
Concept for a new type of 'Feedback Station' with choice of materials

Material: Pen and paper sketch

PROTOTYPE—
Prototype of the 'Feedback Station' allowing for different levels of feel and interaction for differing opinions

Material: Wood, phone screen, button, punching ba

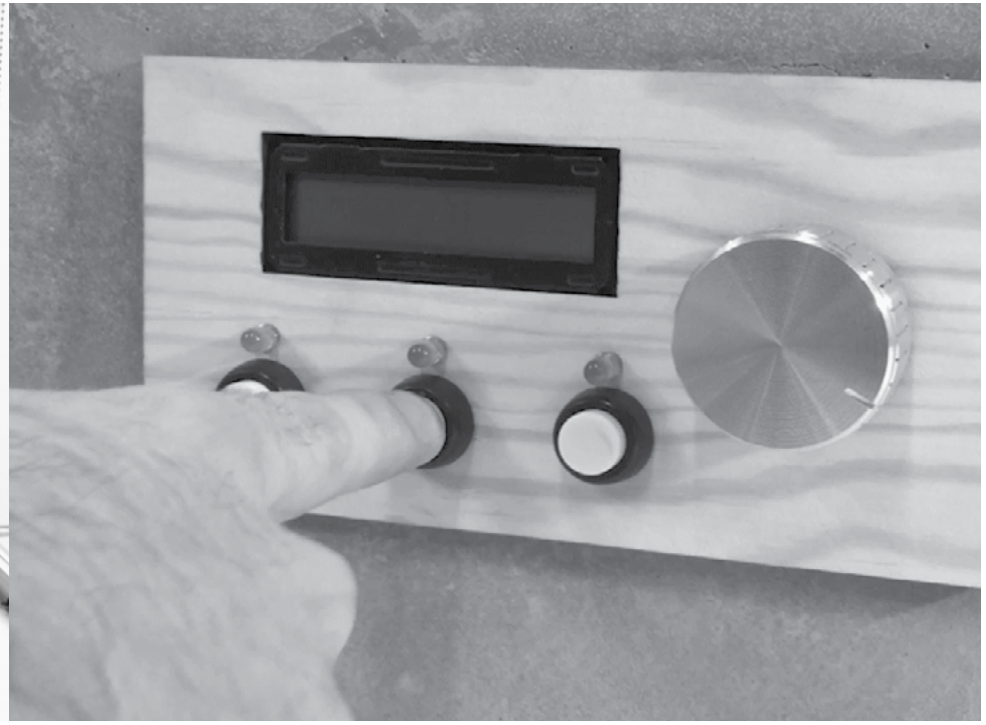
INTERACTION— Mouse

Move

Click

INTERACTION— Alarm Clock

Lift



Play

QUALITIES—

EVERYDAY ICONIC OBJECTS made BIG to introduce ABSURDITY

enforcing BODILY ENGAGEMENT using FORCE to counter WEIGHT.

WHAT DID WE LEARN?

Exploring design as a tool to raise questions

Engaging the user through absurdity to use the body to interact with objects

Stretching the meaning of everyday object to express an idea

Exploring the role of digital artifacts and their effect on our behaviour

How a simple choice as the material can change the perception of an object

> *Angelika Losko, Himanshu Rohilla, Tommaso Laterza, William Doherty.*