ESR 4 - FELIPE SCHMIDT FONSECA

Smart (sustainable, fair, kind, participatory, sovereign, pretty, carbon-positive, future-building, inclusive, resilient...) Cities

Over the last thousands of years, humanity evolved - at least in part - by organising our lives in adaptive systems, some of which are called 'cities'. It might be fair to say that **every city is already smart** in that sense. After all, we have applied our capacity to observe and learn, with creativity and ingenuity (along with selective blindness and a lot of luck, one could argue), in order to overcome the many challenges of sustaining life over generations.

Every city manifests itself in multiple layers of flows and containments, commonalities and separation, collaboration and conflict. They are not static in time. In truth they are subject to dynamics of power, culture, global trends, environmental conditions, among other variables. Here again it might be unwise to claim that some cities are adopting "smart" strategies, unlike the others which remain… what? Dumb? Stupid?

Going further on the metaphor, in fact, may provide some elements to discussion. Do we want our cities to be only smart? Shouldn't we be aiming higher? How about intelligent cities? Or *wise* cities that beyond seeking only the immediate optimisation of their systems can envision ways for their population to thrive for centuries. Cities of conviviality, of *shared abundance*. Cities that can heal social division, whilst creating beauty and meaning.

Photo by Shapelined on Unsplash

Shared abundance

Cities are abundant. Products and materials flow from manufacturers and retailers to households, businesses, public services, nonprofits and communities. A considerable part of such goods is then used for some time and eventually discarded. At which point they are expected to be recycled, or disposed of otherwise.

That image however leads to distortions in understanding. The way municipalities and policymakers often try to handle discarded materials tends to see all abundance as excess. If one subtracts usage from excess, the result - whatever is left - is **waste**.

Photo by Evan Demicoli on Unsplash

*How can we strengthen practices and spaces of care for things that allow society to transform excess materials into **collective generosity**?*

In recent years, new approaches have been gaining ground that see material flows as complex systems which could be improved by increasing their circularity. In other words, ensuring that the potentiality of materials being used is not wasted by getting them recycled too early or, even worse, sent to incineration or landfilling.

Such proposals (found in different contexts under expressions such as circular economy, zero waste, doughnut economy and others) propose, in line with current scholarship on environment, materials and socio-ecology, that there is a desirable hierarchy of potential solutions for excess materials. Before even thinking of recycling, we should first refuse to buy new products and reduce consumption. When goods are nonetheless needed, there should be an effort to **reuse things as much as possible**, for they still may have value. My research focuses at that point in particular: how to prevent waste in contemporary cities and regions.

waste prevention and generous cities

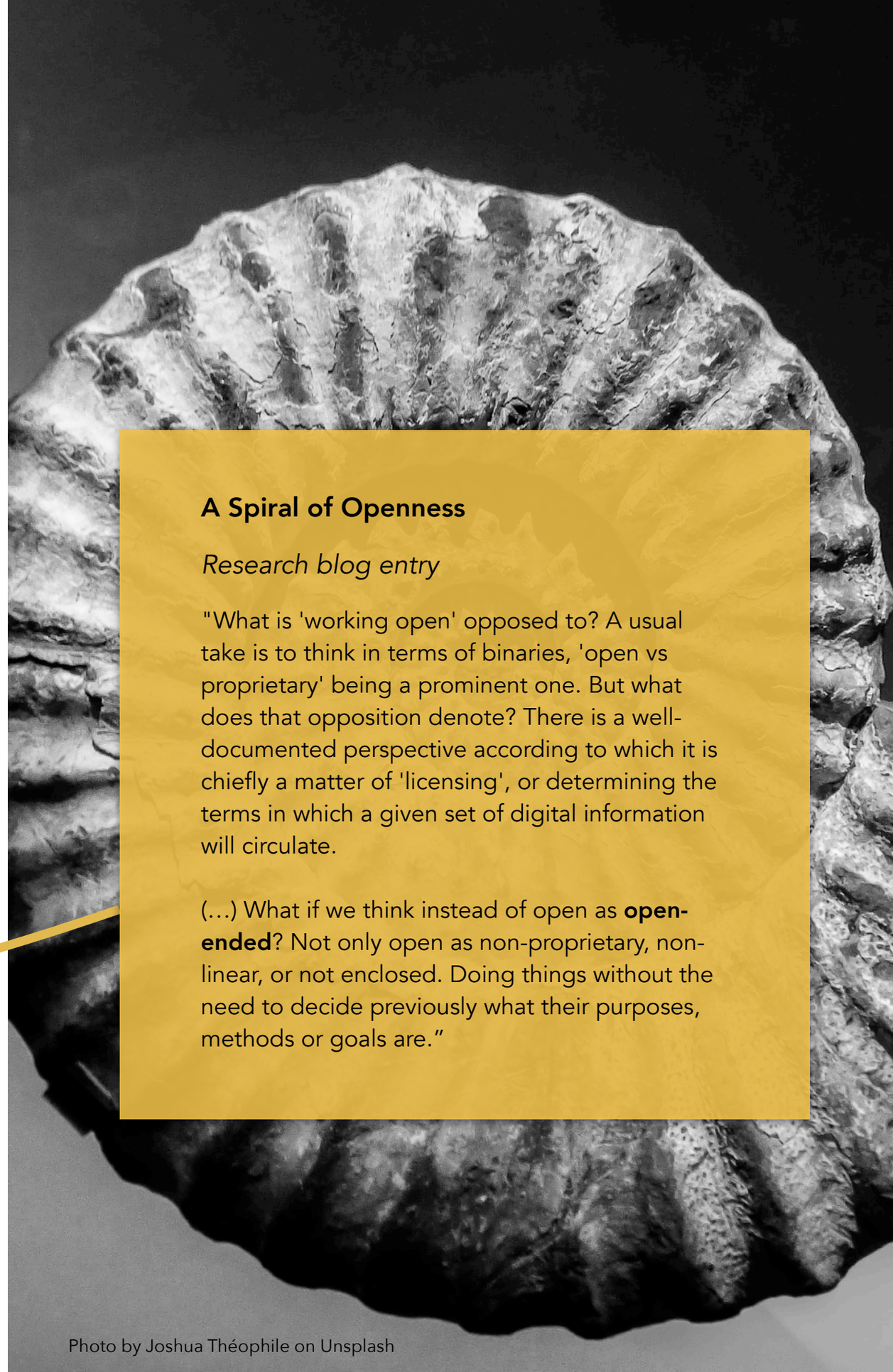
Value in the open

In the second year of research I set out to learn more about the skills and abilities needed for reusing things. This is central if we want to enable society to increase the proportion of materials diverted from the waste stream to promote social and environmental gains. By understanding the potential value of materials and how to realise it, a turn from excess into material generosity will be possible.

With that objective in mind, I designed a research study to engage with practitioners experienced with community-based initiatives of reuse - through repair, upcycling or redistribution. The research questions of said study revolved around the possibility of augmenting and/or replicating value-assessing skills through digital systems - both in software and hardware. In addition, and harkening back to the context of smart (wise?) cities, I wanted to investigate what kind of facility could improve the proportion of materials reused in cities and regions.

Instead of presenting ideas to participants seeking to collect their opinion, I decided to adopt an approach I called the "spiral of openness".

The research study would recruit participants to join an *online co-design lab* for about a month, and involve them in decide its form and purpose since the onset. Starting from deciding how to communicate, to what the activities would be and how to adapt to diverse timezones.



A Spiral of Openness

Research blog entry

"What is 'working open' opposed to? A usual take is to think in terms of binaries, 'open vs proprietary' being a prominent one. But what does that opposition denote? There is a well-documented perspective according to which it is chiefly a matter of 'licensing', or determining the terms in which a given set of digital information will circulate.

(…) What if we think instead of open as **open-ended**? Not only open as non-proprietary, non-linear, or not enclosed. Doing things without the need to decide previously what their purposes, methods or goals are."

Photo by Joshua Théophile on Unsplash

Instead of a linear study with strictly planned activities, or even a circular one that would always return to the beginning, my research took the shape of a spiral, starting from the centre. At each point throughout the months, a connection was made back to that origin. Not only participant's insights and reflections were collected, but the purpose of the study and its format were reshaped. Even the NAMES of the study and of the prototypes changed - finally to "reuse.city co-design lab", "E-I" and "ThingWiki".

First participatory activity: workshop at Mozilla Festival

E-VALUDATA

Design of the research study

VALUDATA

REUSE.CITY

Recruit participants

TECH FOR REUSE

Starting point: How to increase the reuse of materials in cities and regions?

POINT AND REUSE

UNIVERSAL REGISTRY OF THINGS

Conversations within the OpenDoTT consortium

How do we communicate?

VALOOE

Conversations with friends, colleagues, supervisors

Presentation: this is the research so far

E-I

Participants present their background / experiences / projects

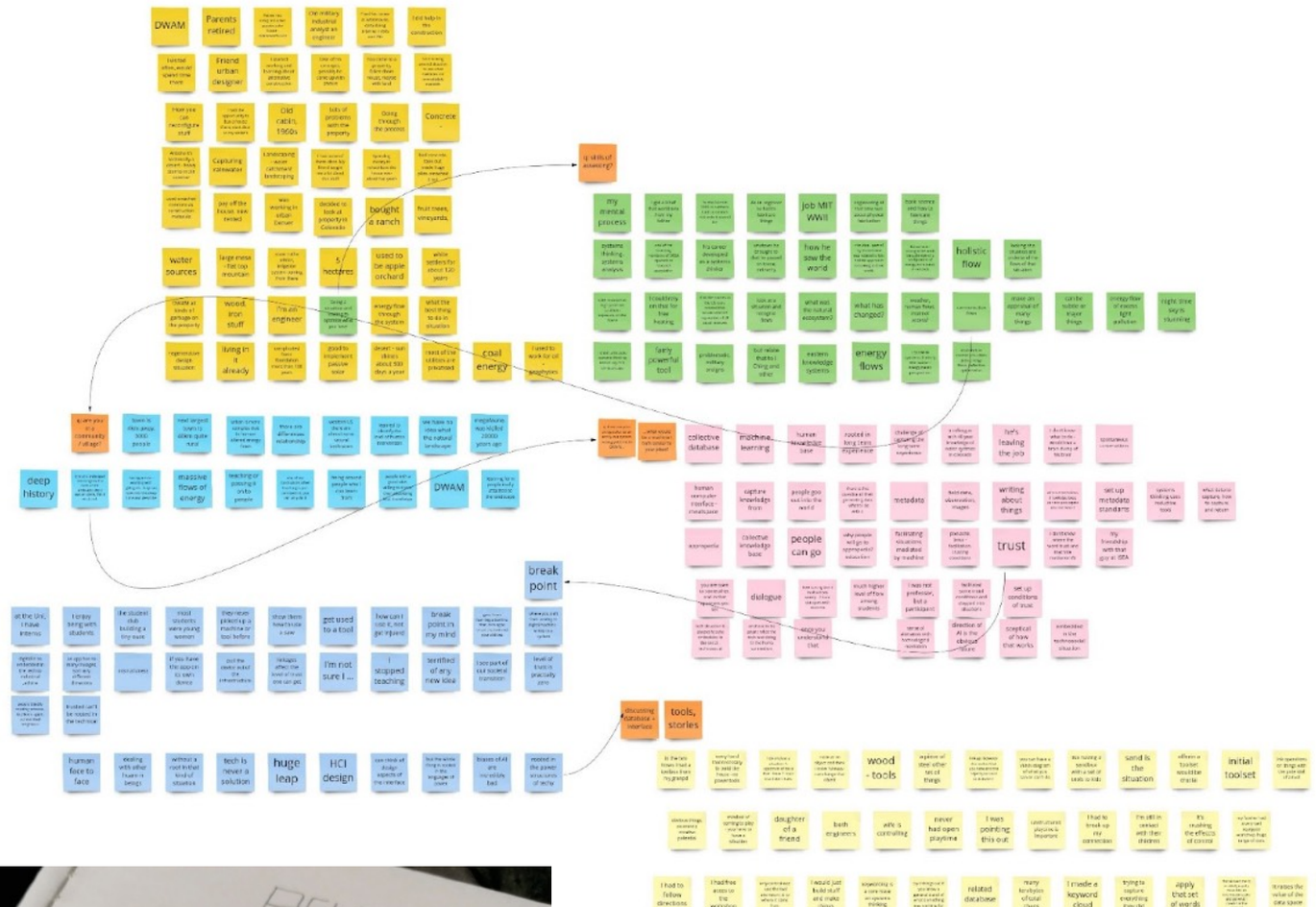
TRANSFORMATION LABS

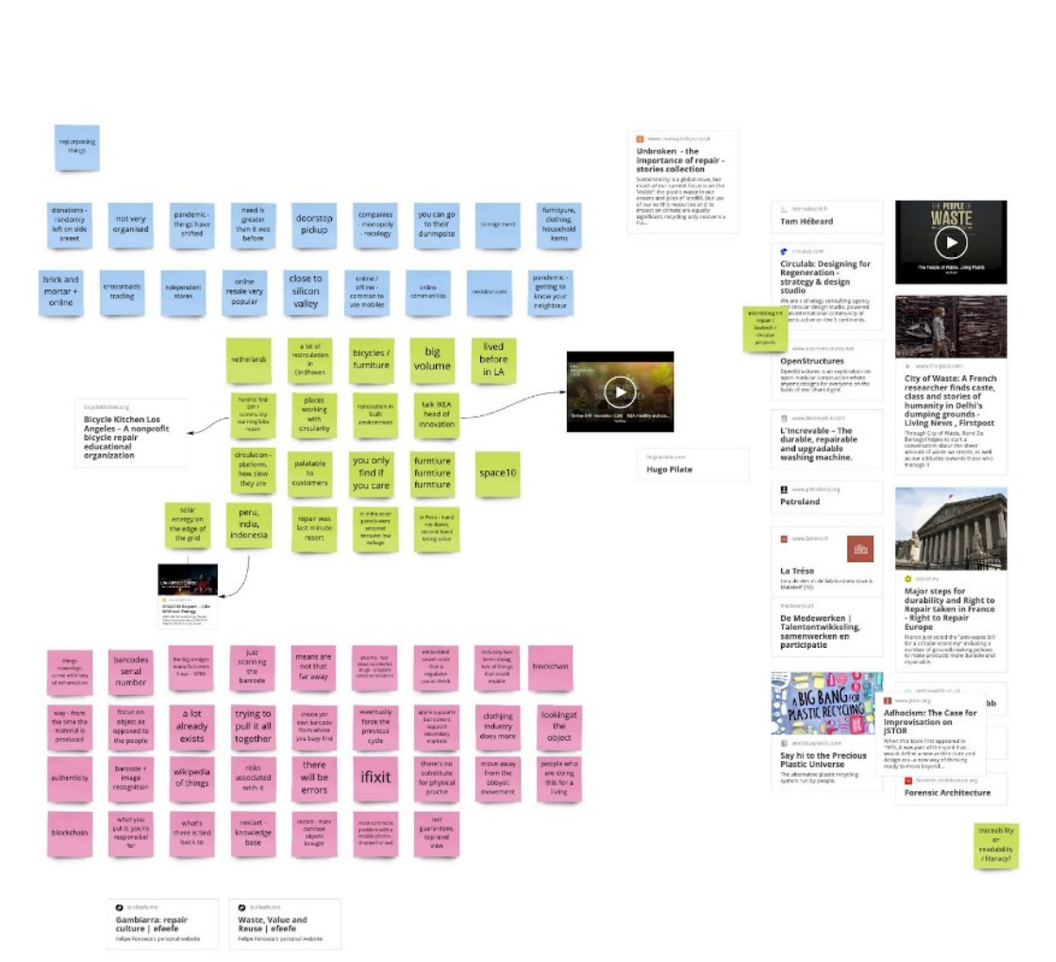
THINGWIKI

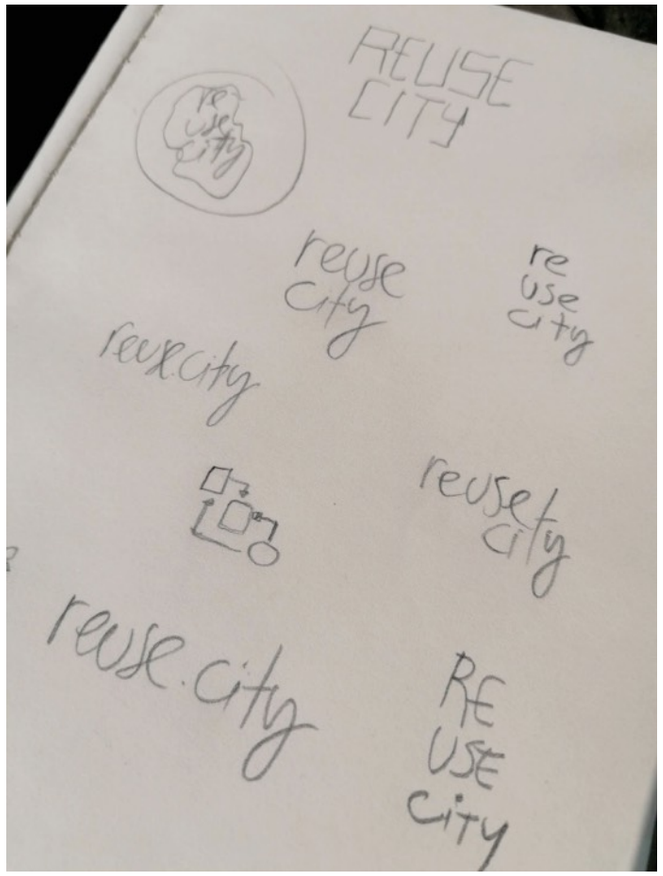
Discussions and Prototyping

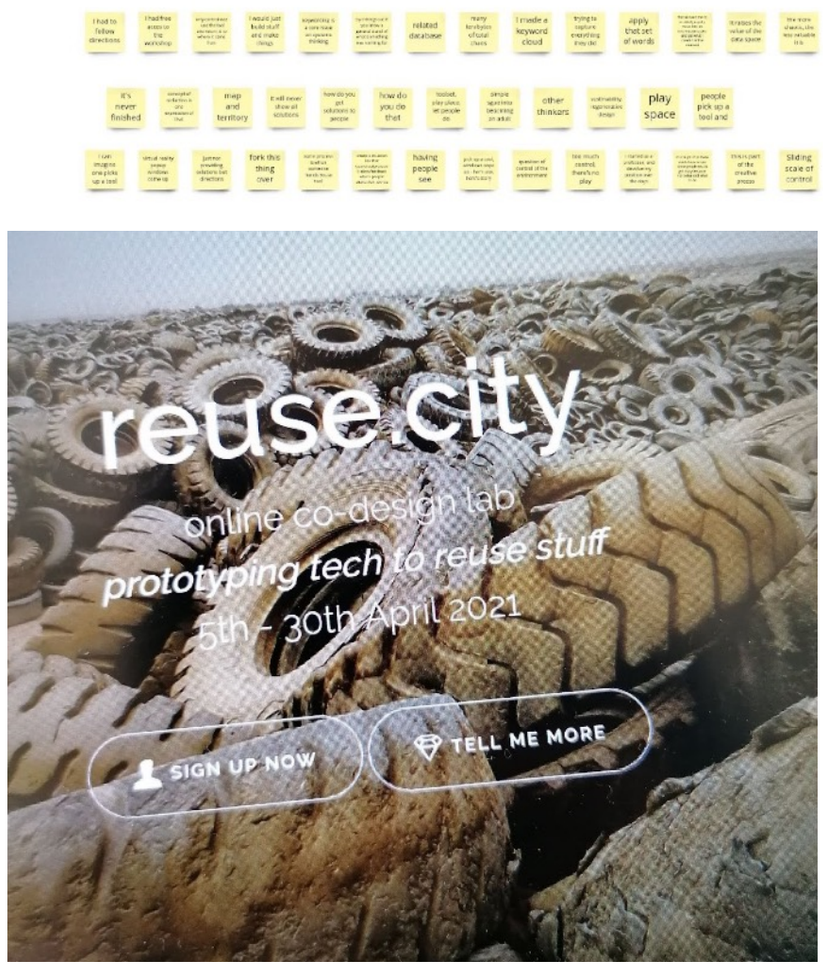
Community building / community being

Participants in four continents joined the calls and online interactions of the reuse.city online co-design lab. As well as providing in-depth feedback and inspiration for the research, the lab was itself the prototype of a community that may still be important in future stages of the project.

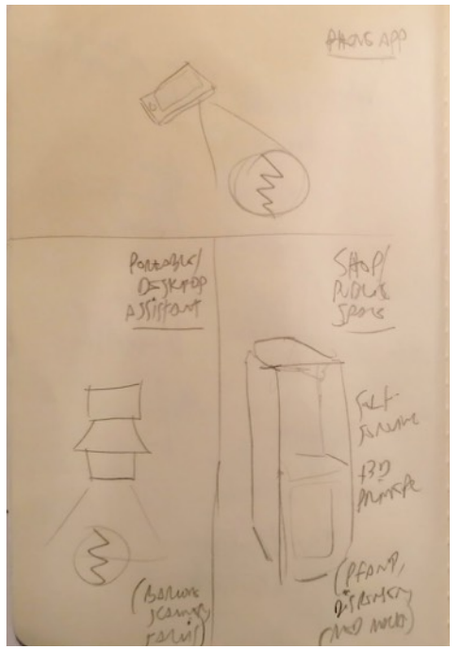








Prototyping



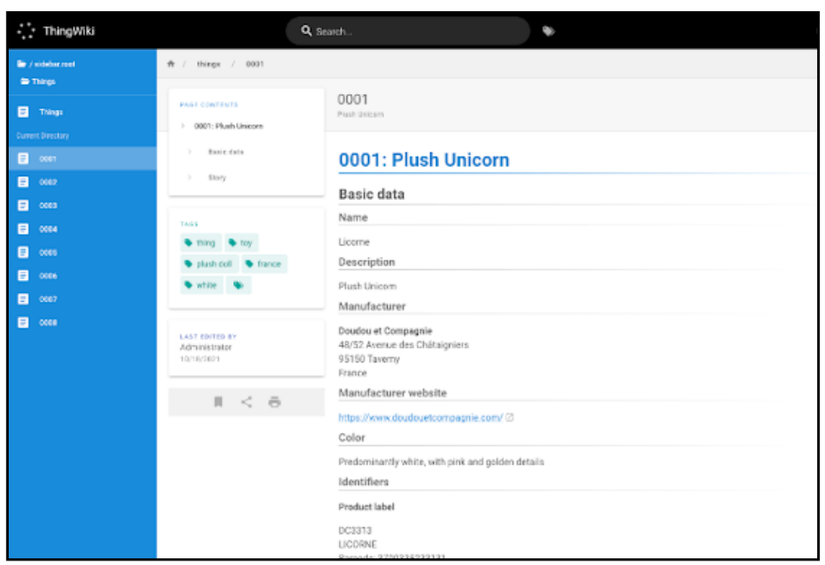
Exploration of prototypes and speculative technologies happened simultaneously with training modules on Open Hardware and Privacy, as well as with the reuse.city lab.

The starting point were two concepts coming from earlier work, updated with feedback from colleagues, supervisors and participants. Two speculative technologies were then prototyped iteratively: **E-I** and **ThingWiki**.

Both explore potential uses of technology to address research questions about augmenting and replicating the skills required for the assessment of potential reuse of goods and materials.

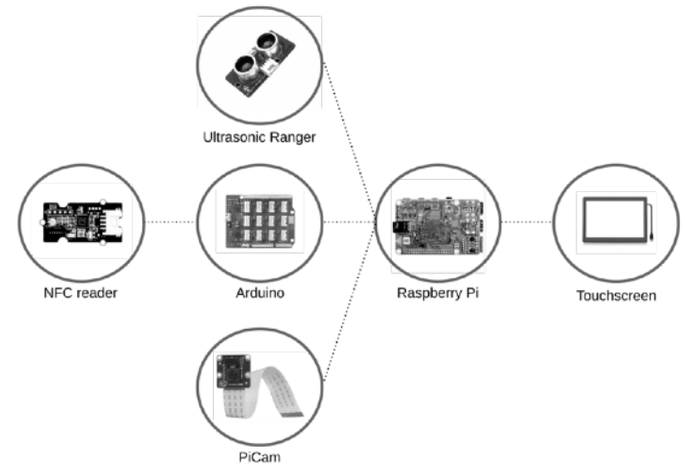
Software / data: ThingWiki

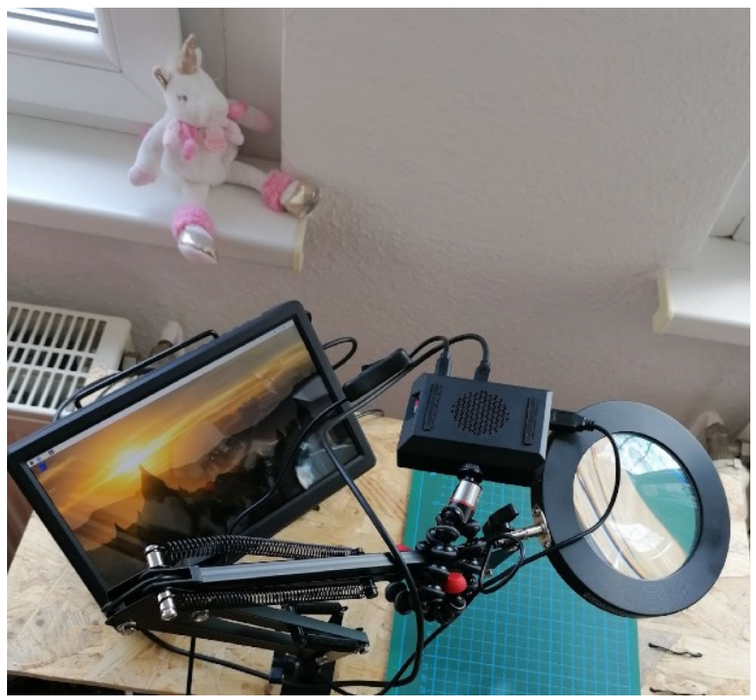
An experimental implementation of the Universal Registry of Things. The prototype is a website with information about different object samples. Its data is public and machine-readable.



Hardware/software: E-I

A combination of speculative technologies to help identify and reuse discarded or idle goods and materials.





Secondment (Berlin is a world!)

I went into the secondment phase moving to Germany as the second year of research began. Even having to adapt my expectations - in the absence of the Mozilla office -, being in Berlin was a good opportunity to get in contact with initiatives both at local as well as at European levels.

I have engaged with networking activities, organisations and public events in themes relevant to my research such as zero waste, circular economy, smart cities, platform cooperativism and open technologies.

HdM

CIRCULAR FUTURES festival

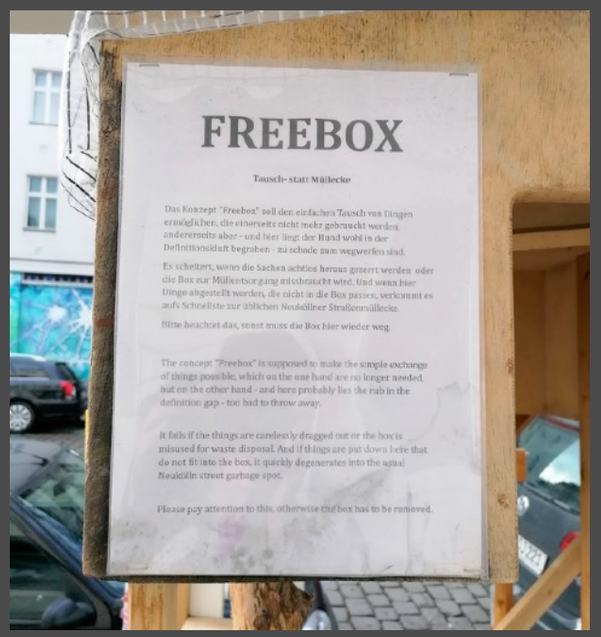
MOTION LAB BERLIN

ZERO WASTE BERLIN Festival

OpenDoTT Studio

circular BERLIN

My engagement in a context of easy re-circulation of goods in Berlin opened space for an auto-ethnographic strand of research that gains importance as I transition to writing my thesis.



The world needs repair

The restrictions to mobility imposed by the COVID-19 pandemic were a double-edged sword. For one, I could not travel to participate on conferences and festivals in person. On the other hand, I was able to attend events, give talks, teach and collaborate with projects in areas connected to my research in different parts of the world - sometimes simultaneously.

Even though it can be argued that the quality of human connections is more superficial in a fully online mode, it may also allow for interesting networked exchange. I tried to make the best use of it. I had for instance the opportunity to present the state of my research and future plans in different contexts.

Tales of Care & Repair

Tales of Care and Repair was a British Council Creative Commission led by Professor Teresa Dillon (UWE Bristol) in partnership with Gambiologia (Brazil) and Toxics Link (India). The goal of the project was to position repair in the context of climate change discussions, by collecting 1000 stories of repair and organising a series of international seminars and workshops in the wake of COP-26 in Glasgow. I helped organise the Brazilian seminar and joined the final seminar in November.

A taught a seminar on Open Design in Context to undergraduate students of Design at Northumbria.

Professor André Lemos invited me to a talk on reuse.city at LAB404, a centre of digital media, networks and space based in the University of Bahia, Brazil.

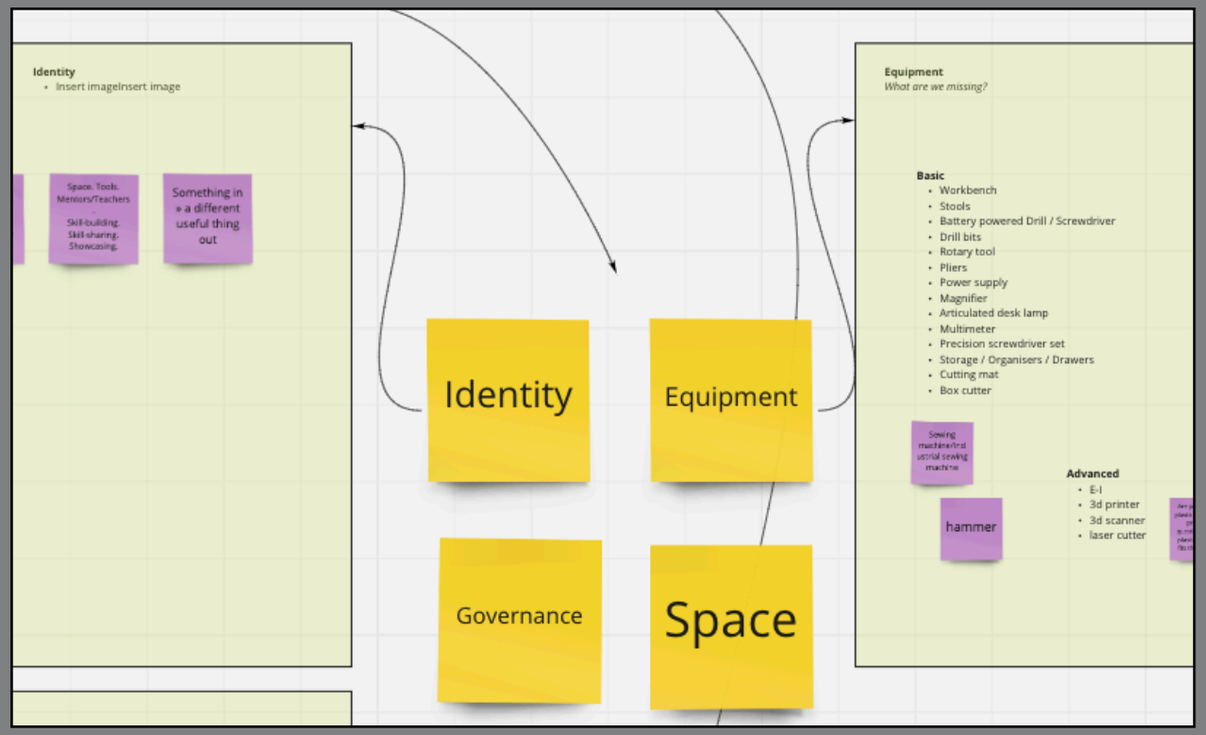
Transform-ing the city

The main focus of the second year of research in the OpenDoTT project revolved around issues of prototyping, internet health, open hardware and privacy. For that reason, when I first decided which concept ideas from the first year I would keep working on, the focus has been on those that could articulate more directly those issues in my research (namely, the Universal Registry of Things - an open database -, and Point and Reuse - an app for mobile devices).

In planning the *reuse city co-design lab*, however, conversations with participants suggested it was relevant to work also on a third concept idea I had not originally planned at this stage of research: the **transformation labs**. To put it as simply as possible, transformation labs would be akin to maker spaces, but with a strong emphasis on reuse instead of the usual prototyping of new products, or digital fabrication per se.

The online workshops of reuse.city then brought forth the discussion around urban facilities and services that would help promote the reuse of materials. What were the precedents and relevant references, as well as main desirable characteristics. With that in mind, we worked on a draft blueprint of what a transformation lab could be, by discussing topics such as identity, equipment, governance and space.

Moving now into the third year of OpenDoTT and its focus on policy and legislation, I expect to work further on the Transformation Labs. I see them as promising assemblages of reuse centres, maker spaces and sites for civic/environmental entrepreneurship. They might as well be the sites to promote **generous cities** based on solidarity and a commons-based governance of goods and materials my research seems to be leaning towards.



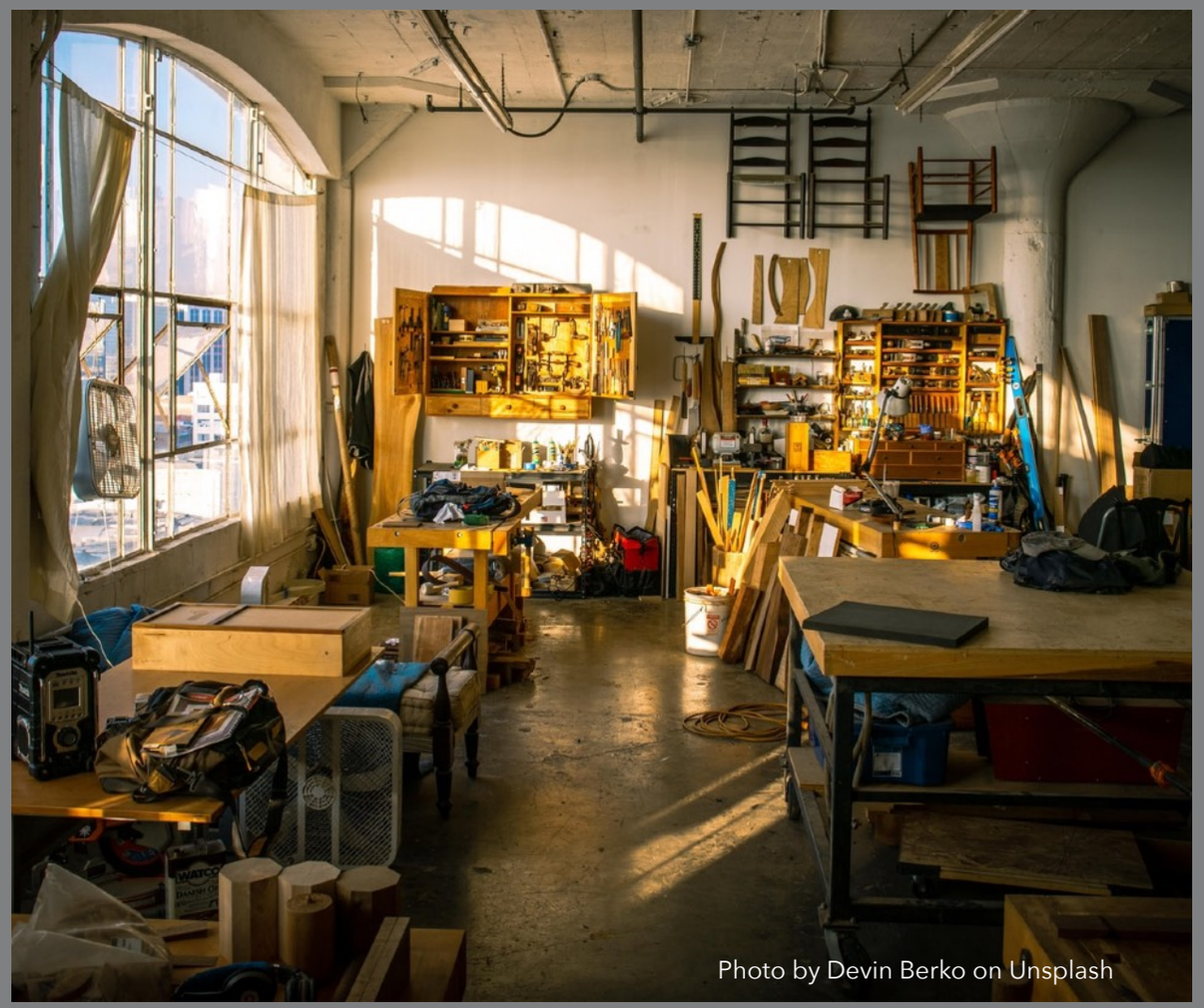


Photo by Devin Berko on Unsplash