Annual Progression II - 2/6

Year 2 Activities

Felipe Schmidt Fonseca
ESR 4 - OpenDoTT
07/01/2022

During the second year of PhD, I have carried out diverse activities. Some of them were part of OpenDoTT plans. Others emerged as I engaged with my topics of research via literature, study participants or events. On the one hand, such activities informed an understanding of where my work stands in relation to different perspectives - from urban studies, from waste management, from open methodologies, from IoT. On the other, I have collected and generated data that will be useful as I go deeper into constructing my thesis in the third year. This document is a list of the activities accomplished in the second year, organised in the following sections:

1. Training
2. Research study: reuse.city
3. Prototyping
4. Events and public engagement
5. Secondment - Berlin
6. WP2 Deliverables

1. Training

I attended all the training modules offered by the OpenDoTT consortium during the second year:

- Internet Health and Open Leadership, provided by the Mozilla Foundation.
- Open Hardware and Prototyping, provided by Officine Innesto.
- Privacy by Design, provided by STBY and UdK.
- Protecting Intellectual Property, provided by Northumbria University.
- Media Training, provided by Northumbria University.

I have also attended additional courses, as listed below:

- Foundations of Doughnut Economics with Kate Raworth, an online self-taught course by Ubiquity University.
- Introduction to the metal workshop (MIG Welding), at Motionlab Berlin.

2. Research study: reuse.city

To better understand the skills and abilities involved in the reuse of materials - particularly in assessing the potential value of materials and how to realise it -, I designed a research study to be conducted during the second year. I would engage with practitioners experienced with community-based initiatives of reuse - through repair, upcycling or redistribution.

The research questions for the study - originally called tech for reuse but eventually renamed to reuse.city - 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 cities, I wanted to investigate what kind of infrastructure or public service could improve the proportion of materials reused in cities and regions.

The research study recruited participants to join an online co-design lab lasting about a month. Participants were involved in deciding the form and purpose of the co-design lab since the onset. Starting from deciding how to communicate, to what the activities would be and how to adapt to diverse time zones. A description of the activities conducted at the lab is being formatted as a paper draft. Its working version can be found in the attached document "Evidence of Writing".

3. Prototyping

In alignment with the purposes of OpenDoTT, during the second year I have co-designed updated concept ideas with participants of reuse.city, and used those concepts as the groundwork for three prototypes:

- E-I is a combination of speculative technologies (hardware and software) to help identify and reuse discarded or idle goods and materials. It can be seen as a digital assistant to repair and reuse objects.
- ThingWiki is an experimental implementation of the earlier concept called Universal Registry of Things. It took the form of a website with information about different object samples. Its data is public and machine-readable.
- Transformation Labs is a blueprint for public spaces akin to maker spaces, but with a strong emphasis on reuse instead of the usual prototyping of new products, or digital fabrication per se. It can become the basis for public policies related to reuse and repair.

Detailed descriptions of the prototypes can be found in OpenDoTT WP2 Deliverables (see the section at the end of this document).

4. Events and public engagement

I have attended conferences and events, and had the opportunity to present my research on some occasions:

- As a speaker / presenter / workshop lead:
  - Mozfest - workshop "Universal Registry of Things".
  - Living Knowledge Festival - research presentation.
  - IOT Hotspot Conference - presentation.
  - Encontros do LAB404 - lecture.
  - Tales of Care and Repair - Brazilian working group and workshops; co-curatorship of the Brazilian seminar; research presentation at the international seminar.
  - Open Design in Context - seminar offered to Northumbria students (Design for Industry).
- As audience / participant:
  - Pivot Conference.

- 4S Annual Meeting.
- Creative Bureaucracy Festival.
- Subvercity.
- FAB CITY Summit.

Tales of Care and Repair was a particularly interesting development. It was led by a professor of the University of West England as a Creative Commission by the British Council exploring climate change leading to COP-26, the climate conference hosted in Glasgow. I was initially invited by a former colleague to advise on organising the Brazilian seminar and workshops connected to the project. Eventually, the project lead invited me to join the international closing seminar as well.

5. Secondment - Berlin

As mentioned in the "Year 2 Progress Report", experiencing Berlin from the street level informed my reflection on "generous cities". It also allowed me to engage with local actors related to my research topic, work for some months at a local makerspace and attend in-person events. Some examples are listed below:

- Motionlab - makerspace and co-working with a vibrant start-up scene.
- HdM (Haus der Materialisierung) - space that hosts organisations working with material recovery and upcycling.
- Circular Berlin network and the Circular Futures Festival.
- Zero Waste Berlin and the Zero Waste Berlin Festival.
- Other events:
  - Transmediale Festival and Symposium.
  - Climate Care Conference.

Also part of the Secondment phase, the OpenDoTT fellows created the OpenDoTT studio. I co-organised the first edition, called "Hack the Earth".

6. WP2 Deliverables

Marking the completion of OpenDoTT's Work Package 2, I have submitted a series of deliverables in December 2021:

- Technology Demonstrators
- Updated IoT Concepts
- Documentation of Prototypes
- Deployment Datasets
- Open Technology Workbook

A brief description of each one can be seen in the document "Year 2 Progress Report". All the WP2 deliverables are accessible from a Github repository:
https://github.com/opendott-smartcities/II/tree/main/WP2-deliverables